

RAMACO



Annual Report 2023

Brook Mine — Sheridan, WY

RAMACO

250 West Main St. Suite 1900

Lexington, KY 40507

info@ramacometc.com

www.ramacoresources.com



2023 Overview

This was an exciting year for Ramaco Resources. Since 2007, we have produced low-cost, high quality metallurgical coal for the domestic and global steel industry. This year, we made strong progress toward our goal of more than doubling production, to over 7 million tons over the medium term. Ramaco anticipates growing met coal production by over 30% in 2024 compared to the previous year, after growing production by almost 20% in 2023. In addition, discoveries by a Department of Energy laboratory related to our Rare Earth Element deposits in Wyoming drove new interest in the company in 2023, and opened the potential for Ramaco to be a major US supplier of critical materials for many decades. We have minimal AROs, net debt and legacy liabilities, as well as strong free cash flow generation, offering an attractive capital structure and some of the industry's top shareholder returns.



Revenue Growth
Up 145%

2021-2023



Net Income
Up 107%

2021-2023



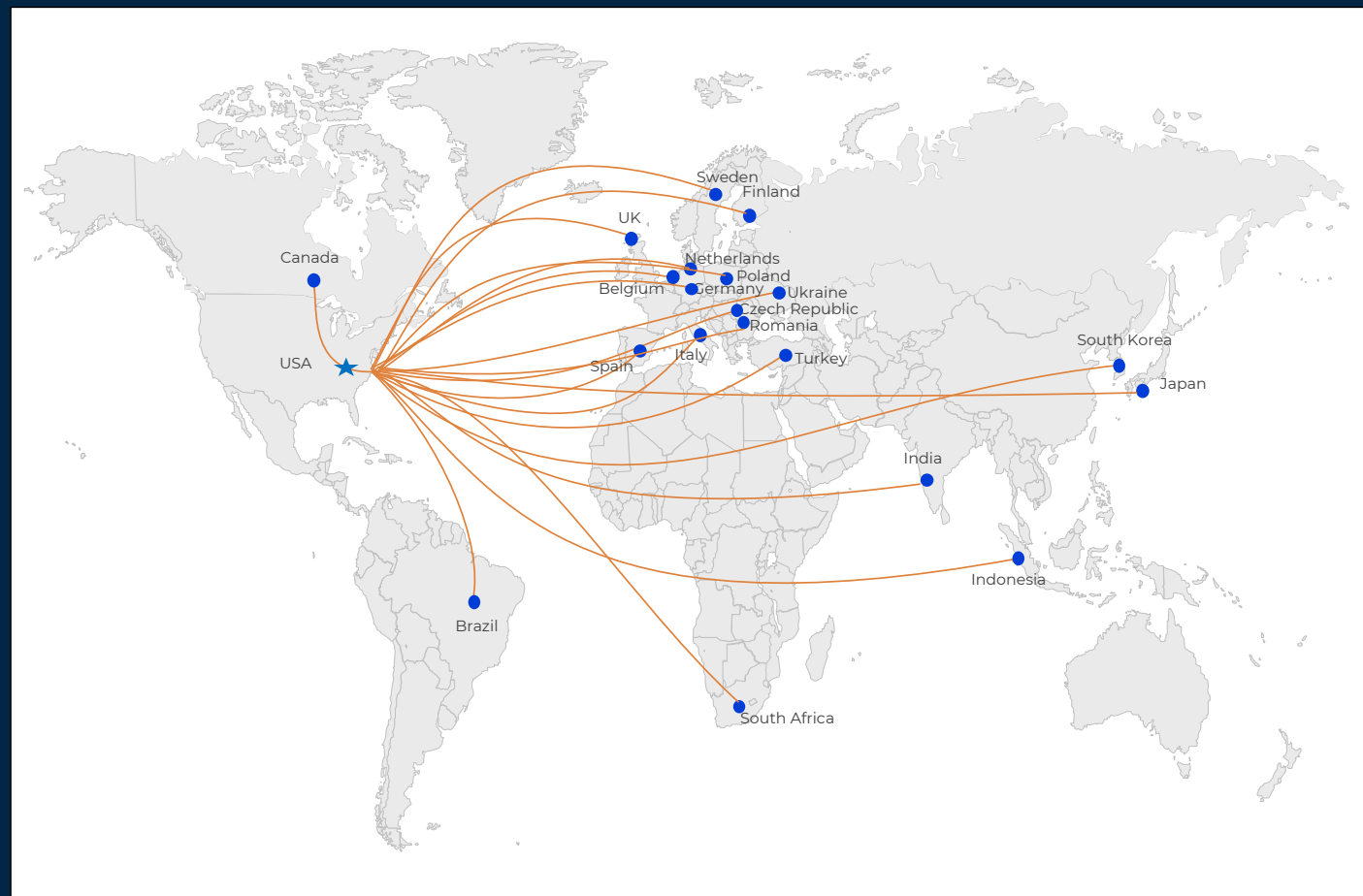
Adjusted EBITDA*
Up 130%

2021-2023

* Adjusted EBITDA and Net Debt are used as supplemental non-GAAP financial measures by management and external users of our financial statements. Please see the reconciliation of these measures to the comparable GAAP measures on page 6.

Global Coal Sales

Ramaco coal has been sold into 20 countries, having recently increased its Asian footprint. In 2023, we sold 3.5 million tons to customers in the US and around the world. In the second half of 2023, we achieved our original goal from the time of the IPO to ship at a 4 million ton annualized run-rate, with roughly two-thirds of our coal getting sold overseas in 2023.



Key Financial Metrics

	2019	2020	2021	2022	2023	Change 2019-2023
Total Tons Sold ('000)	1,950	1,749	2,286	2,450	3,455	77%
Revenue (\$mm)	\$230	\$169	\$283	\$566	\$694	201%
Cost of Sales (\$mm)	\$163	\$146	\$195	\$333	\$494	204%
Pricing of Company Produced (\$/Ton)	\$109	\$85	\$108	\$207	\$169	55%
Cash Cost of Sales - Company Produced (\$/Ton)	\$73	\$72	\$70	\$105	\$109	49%
Net Income (\$mm)	\$25	(\$5)	\$40	\$116	\$82	229%
Class A & B Dividends (\$mm)	\$0	\$0	\$0	\$20	\$26	
Adjusted EBITDA (\$mm)*	\$55	\$19	\$79	\$205	\$182	130%
Total Assets (\$mm)	\$227	\$229	\$329	\$596	\$666	194%
Total Liabilities (\$mm)	\$57	\$60	\$118	\$287	\$296	422%
Total Stockholders' Equity (\$mm)	\$170	\$169	\$211	\$309	\$370	118%
Cash (\$mm)	\$6	\$5	\$22	\$36	\$42	659%
Net Debt (\$mm)*	\$7	\$12	\$21	\$92	\$48	547%
Asset Retirement Obligations (\$mm)	\$15	\$15	\$23	\$29	\$29	99%
Capital Expenditures (\$mm)	\$46	\$25	\$29	\$123	\$83	82%
Employees	395	349	454	725	811	105%

Revenue	Net Income	Dividends	Adjusted EBITDA*	Employees
\$694M	\$82M	\$26M	\$182M	811

* Adjusted EBITDA and Net Debt are used as supplemental non-GAAP financial measures by management and external users of our financial statements. Please see the reconciliation of these measures to the comparable GAAP measures on page 6.

Reconciliation of Non-GAAP Measures

Adjusted EBITDA and Net Debt are used as supplemental non-GAAP financial measures by management and external users of our financial statements, such as industry analysts, investors, lenders and rating agencies. We believe Adjusted EBITDA and Net Debt are useful because each allows us to more effectively evaluate our operating performance.

We define Adjusted EBITDA as net income plus net interest expense; equity-based compensation; depreciation, depletion, and amortization expenses; income taxes; certain non-operating expenses (charitable contributions), and accretion of asset retirement obligations. Its most comparable GAAP measure is net income. We define Net Debt as total debt less cash and cash equivalents. Its most comparable GAAP measure is total debt. Reconciliations of net income to Adjusted EBITDA and total debt to Net Debt are included below. Adjusted EBITDA and Net Debt are not intended to serve as substitutes for GAAP measures of performance and may not be comparable to similarly-titled measures presented by other companies.

(In thousands)	2023	2022	2021
Reconciliation of Net Income to Adjusted EBITDA			
Net Income	\$ 82,313	\$ 116,042	\$ 39,759
DD&A	54,252	41,194	26,205
Interest expense, net	8,903	6,829	2,556
Income tax expense	22,350	30,153	4,647
EBITDA	167,818	194,218	73,167
Stock-based compensation	12,905	8,222	5,260
Other non-operating expenses	-	1,000	-
Accretion of AROs	1,403	1,115	615
Adjusted EBITDA	\$ 182,126	\$ 204,555	\$ 79,042

(In thousands)	2023	2022	2021
Reconciliation of Total Debt to Net Debt			
Total Debt	\$ 90,179	\$ 127,226	\$ 43,376
Cash and cash equivalents	41,962	35,613	21,891
Net Debt	\$ 48,217	\$ 91,613	\$ 21,485

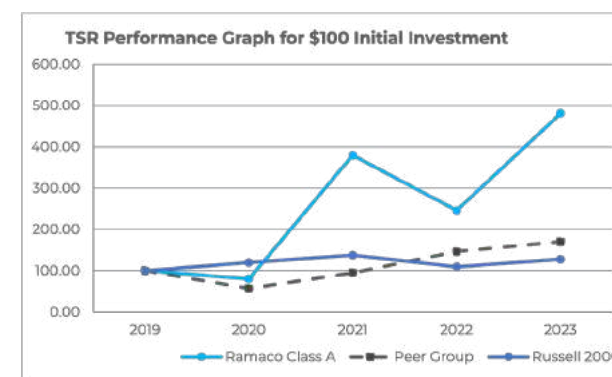
Shareholder Return

The following graphs set forth the cumulative total shareholder return (assuming reinvestment of dividends) to shareholders of our Class A and Class B common stock, as well as the corresponding returns on the Russell 2000 Index and a peer group comprised of the following companies:

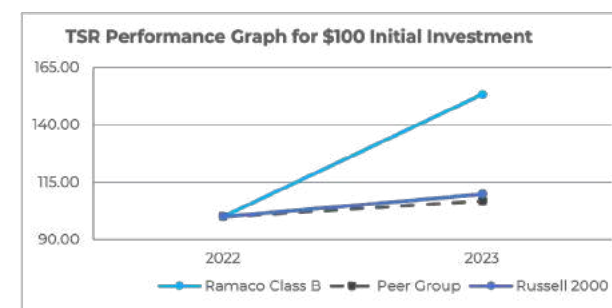
Alliance Resource Partners, LP
Berry Corporation
Coronado Global Resources, Inc.
Piedmont Lithium Inc.
Talos Energy Inc.

Alpha Metallurgical Resources, Inc.
Compass Minerals International, Inc.
Hallador Energy Company
Ring Energy, Inc.
Tellurian Inc.

Arch Resources, Inc.
CONSOL Energy Inc.
Peabody Energy Corporation
SunCoke Energy, Inc.
Warrior Met Coal, Inc.



	Based on \$100 Investment		
	Ramaco Class A TSR	Peer Group * Avg. TSR	Russell 2000 TSR
2019	100.00	100.00	100.00
2020	80.45	56.93	119.96
2021	379.89	94.82	137.74
2022	245.87	146.65	109.59



	Based on \$100 Investment		
	Ramaco Class B TSR	Peer Group Avg. TSR	Russell 2000 TSR
2022	100.00	100.00	100.00
2023	153.17	106.68	109.75



Total shareholder return represents change in METC share price from year end 2019 to year end 2023, and from year end 2022 to year end 2023 respectively + METC & METCB dividends, adjusted for year end 2023 METCB value.

* The peer group in this table differs from the peer group utilized by the Company during 2023 reflected in the Company's Compensation Discussion and Analysis for such year, primarily to increase the number of publicly-traded extraction companies. For comparison purposes, TSR under the previous peer group is calculated as follows: \$234.07 for 2023, \$183.91 for 2022, \$99.74 for 2021, and \$52.90 for 2020. The previous peer group was made up of the following companies: Peabody Energy Corporation, Alliance Resource Partners, L.P., Alpha Metallurgical Resources, Inc., Talos Energy Inc., CONSOL Energy Inc., Arch Resources, Inc., Coronado Global Resources, Inc., Warrior Met Coal, Inc., SunCoke Energy, Inc., Berry Corporation, and Contango Oil and Gas Company (2020 only). Past performance may not be indicative of future results.

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2023
or

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____
Commission File Number: 001-38003

RAMACO RESOURCES, INC.
(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction
of incorporation or organization)

250 West Main Street, Suite 1900
Lexington, Kentucky
(Address of principal executive offices)

38-4018838
(I.R.S. Employer
Identification No.)

40507
(Zip Code)

(859) 244-7455
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

<u>Title of each class</u>	<u>Trading Symbol</u>	<u>Name of each exchange on which registered on which registered</u>
Class A Common Stock, \$0.01 par value	METC	NASDAQ Global Select Market
Class B Common Stock, \$0.01 par value	METCB	NASDAQ Global Select Market
9.00% Senior Notes due 2026	METCL	NASDAQ Global Select Market

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically, if any, every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<input type="checkbox"/>	Accelerated filer	<input checked="" type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report.

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements.

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to § 240.10D-1(b).

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

As of June 30, 2023, the last business day of the registrant's most recently completed second fiscal quarter, the aggregate market value of common stock held by non-affiliates of the registrant was approximately \$269.1 million.

As of February 29, 2024, the registrant had 44,263,429 and 8,825,928 outstanding shares of Class A and Class B common stock, respectively.

Documents Incorporated by Reference:

Certain information required to be furnished pursuant to Part III of this Annual Report on Form 10-K is set forth in, and is hereby incorporated by reference herein from, the definitive proxy statement for our 2024 Annual General Meeting of Stockholders, to be filed by Ramaco Resources with the Securities and Exchange Commission pursuant to Regulation 14A within 120 days after December 31, 2023.

TABLE OF CONTENTS

	<u>Page</u>
PART I	
ITEM 1. Business	4
ITEM 1A. Risk Factors	22
ITEM 1B. Unresolved Staff Comments	58
ITEM 1C. Cybersecurity	58
ITEM 2. Properties	59
ITEM 3. Legal Proceedings	69
ITEM 4. Mine Safety Disclosures	69
PART II	
ITEM 5. Market for Registrant’s Common Equity and Related Shareholder Matters	70
ITEM 6. [Reserved]	71
ITEM 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations	71
ITEM 7A. Quantitative and Qualitative Disclosures about Market Risk	83
ITEM 8. Financial Statements and Supplementary Data	85
ITEM 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	119
ITEM 9A. Controls and Procedures	119
ITEM 9B. Other Information	120
ITEM 9C. Disclosures Regarding Foreign Jurisdictions that Prevent Inspections	120
PART III	
ITEM 10. Directors, Executive Officers and Corporate Governance	121
ITEM 11. Executive Compensation	121
ITEM 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	121
ITEM 13. Certain Relationships and Related Persons Transactions	121
ITEM 14. Principal Accountant Fees and Services	121
PART IV	
ITEM 15. Exhibits and Financial Statement Schedules	122
SIGNATURES	131

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

The information in this Annual Report on Form 10-K (the “Annual Report”) includes “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”) and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). All statements, other than statements of historical fact included in this report, regarding our strategy, future operations, financial position, estimated revenue and losses, projected costs, prospects, plans and objectives of management are forward-looking statements. When used in this Annual Report, the words “could,” “believe,” “anticipate,” “intend,” “estimate,” “expect,” “project” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain such identifying words. These forward-looking statements are based on management’s current expectations and assumptions about future events and are based on currently available information as to the outcome and timing of future events. When considering forward-looking statements, you should keep in mind the risk factors and other cautionary statements described under the heading “Risk Factors” included in this report Annual Report.

Forward-looking statements may include statements about:

- anticipated production levels, costs, sales volumes and revenue;
- timing and ability to complete major capital projects;
- economic conditions in the metallurgical coal and steel industries;
- expected costs to develop planned and future mining operations, including the costs to construct necessary processing, refuse disposal and transport facilities;
- estimated quantities or quality of our metallurgical coal reserves;
- our ability to obtain additional financing on favorable terms, if required, to complete the acquisition of additional metallurgical coal reserves as currently contemplated or to fund the operations and growth of our business;
- maintenance, operating or other expenses or changes in the timing thereof;
- the financial condition and liquidity of our customers;
- competition in coal markets;
- the price of metallurgical coal or thermal coal;
- compliance with stringent domestic and foreign laws and regulations, including environmental, climate change and health and safety regulations, and permitting requirements, as well as changes in the regulatory environment, the adoption of new or revised laws, regulations and permitting requirements;
- potential legal proceedings and regulatory inquiries against us;
- the impact of weather and natural disasters on demand, production and transportation;
- purchases by major customers and our ability to renew sales contracts;
- credit and performance risks associated with customers, suppliers, contract miners, co-shippers and traders, banks and other financial counterparties;
- geologic, equipment, permitting, site access and operational risks and new technologies related to mining;
- transportation availability, performance and costs;
- availability, timing of delivery and costs of key supplies, capital equipment or commodities such as diesel fuel, steel, explosives and tires;
- timely review and approval of permits, permit renewals, extensions and amendments by regulatory authorities;
- our ability to comply with certain debt covenants;
- tax payments to be paid for the current fiscal year;
- our expectations relating to dividend payments and our ability to make such payments;
- the anticipated benefits and impacts of previous acquisitions;
- risks related to Russia’s invasion of Ukraine and the international community’s response;
- risks related to weakened global economic conditions and inflation;
- risks related to the impact of the novel coronavirus (“COVID-19”) global pandemic, such as the scope and duration of the outbreak, the health and safety of our employees, government actions and restrictive measures implemented in response, delays and cancellations of customer sales, supply chain disruptions and other impacts to the business, or our ability to execute our business continuity plans;

- risks related to the Company’s tracking stock structure and separate performance of its Carbon Ore-Rare Earth (“CORE”) assets; and
- other risks identified in this Annual Report that are not historical.

We caution you that these forward-looking statements are subject to a number of risks, uncertainties and assumptions, which are difficult to predict and many of which are beyond our control, incident to the development, production, gathering and sale of coal. Moreover, we operate in a very competitive and rapidly changing environment and additional risks may arise from time to time. It is not possible for our management to predict all of the risks associated with our business, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. Although we believe that our plans, intentions and expectations reflected in or suggested by the forward-looking statements we make in this Annual Report are reasonable, we can give no assurance that these plans, intentions or expectations will be achieved or occur, and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements. Given these risks and uncertainties, investors should not place undue reliance on forward-looking statements as a prediction of actual results.

All forward-looking statements, expressed or implied, included in this Annual Report are expressly qualified in their entirety by this cautionary statement and speak only as of the date of this Annual Report. This cautionary statement should also be considered in connection with any subsequent written or oral forward-looking statements that we or persons acting on our behalf may issue.

Except as otherwise required by applicable law, we disclaim any duty to update any forward-looking statements, all of which are expressly qualified by the statements in this section, to reflect events or circumstances after the date of this Annual Report.

PART I

Item 1. Business

Ramaco Resources, Inc. is a Delaware corporation formed in October 2016. Our Class A and Class B common stock are listed on the NASDAQ Global Select Market under the symbols “METC” and “METCB,” respectively. Our 9.00% Senior Notes due 2026 (the “Senior Notes”) are listed on the NASDAQ Global Select Market under the symbol “METCL”. Our principal corporate offices are located in Lexington, Kentucky. As used herein, “Ramaco Resources,” “Ramaco,” “the Company,” “we,” “us,” or “our,” and similar terms include Ramaco Resources, Inc. and its subsidiaries, unless the context indicates otherwise.

General

We are an operator and developer of high-quality, low-cost metallurgical coal in southern West Virginia and southwestern Virginia. We are a pure play metallurgical coal company with 59 million reserve tons and 1,119 million measured and indicated resource tons of high-quality metallurgical coal. We believe our advantaged reserve geology provides us with higher productivity and industry-leading lower cash costs.

Our development portfolio primarily includes the following properties: Elk Creek, Berwind, Knox Creek, and Maben. We believe each of these properties possesses geologic and logistical advantages that make our coal among the lowest delivered-cost U.S. metallurgical coal to our domestic target customer base, North American blast furnace steel mills and coke plants, as well as international metallurgical coal consumers. We also control mineral deposits near Sheridan, Wyoming as part of the Company’s initiatives regarding the potential recovery of rare earth elements as well as the potential commercialization of coal-to-carbon-based products and materials.

Our operations include six active mines at our Elk Creek mining complex (the “Elk Creek Complex”), three active mines at our Berwind mining complex (the “Berwind Complex”), two active mines at our Knox Creek mining complex (the “Knox Creek Complex”), and one active mine at our Maben mining complex (the “Maben Complex”).

Development of the Elk Creek Complex commenced in 2016 and included the construction of a preparation plant and rail load-out facilities. The Elk Creek property consists of approximately 20,200 acres of controlled mineral rights and contains approximately 16 seams that we have targeted for production. Expansion of the Elk Creek preparation plant occurred during 2022 and 2023 in order to increase production.

Development of the Berwind Complex began in late 2017. In 2020, we suspended development at the Berwind Complex due to lower pricing and demand largely caused by the COVID-19 outbreak. In early-2021, as pricing and demand improved, Berwind development was restarted. We successfully reached the thicker Pocahontas No. 4 seam in late 2021. The Berwind property consists of approximately 62,500 acres of controlled mineral rights, including the December 2021 acquisition of “Amonate Assets” from subsidiaries of Coronado Global Resources Inc. (“Coronado”) in 2021. The Amonate Assets include a processing plant located in our Berwind Complex, saving us transportation costs to our Knox Creek plant 26 miles away. The Berwind Complex experienced an ignition event in 2022 that resulted in idling mining operations for one of the active mines. Production restarted for the idle mine in the first quarter of 2023.

Our Knox Creek Complex includes a preparation plant and 64,050 acres of controlled mineral rights that we expect to develop in the future. The Knox Creek preparation plant processed some coal from our Berwind Complex in 2023 as well as coal purchased from third parties.

The Maben Coal acquisition in 2022 provides the Company with 28,000 leased acres of controlled mineral rights, which includes coal deposits that may be mined currently by surface and high wall mining methods as well as developed in the future through deep mining.

Our RAM Mine property is located in southwestern Pennsylvania. Following years of delays, the Pennsylvania Department of Environmental Protection issued a denial of the RAM Mine permit. While the Company believes that the RAM permit was denied incorrectly and capriciously, we will not appeal the denial of the permit and will instead focus on our other core properties and monetize these assets at the appropriate time.

Our Brook Mine property consists of approximately 16,000 acres of controlled mineral rights and a research and development facility that were acquired as part of the purchase of Ramaco Coal in 2022. The mine is currently undergoing mineral analysis and core drilling assessment to assess the potential concentrations of rare earth elements.

As of December 31, 2023, our estimated aggregate annual production capacity is just under four million clean tons of coal. We plan to complete development of our existing properties and increase annual production over the next few years to approximately seven million clean tons of metallurgical coal annually, subject to market conditions, permitting, and additional capital deployment. We may also acquire additional reserves or infrastructure that contribute to our focus on advantaged geology and lower costs.

Metallurgical Coal Industry

Metallurgical coal, also known as “met coal “ or “coking coal,” is a key component of the blast furnace steelmaking process and, therefore, demand for such coal is highly correlated with conditions in the steel industry. The metallurgical coal global market has grown steadily in recent years and is expected to continue to do so over the next few years.

United States metallurgical coal mines are primarily located in the Appalachian area of the eastern U.S. Imported metallurgical coal has historically been uneconomic due to transportation costs and availability of domestic supply. Metallurgical coal is transported to domestic customers by truck, rail, barge and vessel. Metallurgical coal contracts in North America are typically 12-month, calendar year contracts where both prices and volumes are fixed. These contracts are normally negotiated and entered into during the third and fourth quarters of the preceding calendar year.

U.S. metallurgical coal is also exported to the seaborne market and sold to buyers in Europe, South America, Africa, and Asia. U.S. metallurgical coal exports are primarily sold to buyers in the Atlantic Basin market (customers in Europe, Brazil and Africa), and serve as swing supply to buyers in the Pacific Basin (customers in India, South Korea,

Japan and China). U.S. metallurgical coal exports compete with Australian metallurgical coals that are generally produced at a lower cost but are geographically disadvantaged to the Atlantic Basin. Conversely, Australian production has a much shorter logistical route to Pacific Basin customers. Any supply shortfall out of Australia, or increase in global demand beyond Australia's capacity, has historically been serviced by U.S. and Canadian metallurgical coal producers.

Export metallurgical coal pricing is determined utilizing a series of indices from a number of independent sources and is adjusted for coal quality. Contracted export volumes have terms that vary in duration from spot cargoes to one year, rarely exceeding one year. In some cases, indices are used to calculate pricing at the point that the coal changes hands. In other cases, an average value of indices over time may be utilized. While the term "benchmark" is still utilized, it too is determined based on index values, typically for the preceding three months.

Metallurgical coals are generally classified as high, medium or low-volatile ("vol"). Volatiles are products, other than water, that are released as gas or vapor when coal is converted to coke. Carbon is the primary element that remains when the volatiles are released.

Our Strategy

Our business strategy is to increase stockholder value through sustained earnings growth, cash flow generation and dividends by:

Developing and Operating Our Metallurgical Coal Properties. We have 59 million reserve tons and 1,119 million measured and indicated resource tons of high-quality metallurgical coal with attractive quality characteristics across high-volatility and low-volatility segments. This geologically advantaged resource and reserve base allows for flexible capital spending in challenging market conditions.

We plan to complete development of our existing properties and increase annual production over the next few years to approximately seven million clean tons of metallurgical coal, subject to market conditions, permitting, and additional capital deployment. We may also acquire additional reserves or infrastructure that contribute to our focus on advantaged geology and lower costs.

Being a Low-Cost U.S. Producer of Metallurgical Coal. Our reserve base presents advantaged geologic characteristics such as relatively thick coal seams at the deep mines, a low effective mining ratio at the surface mines, and desirable metallurgical coal quality. These characteristics contribute to a production profile that has a cash cost of production that is significantly below most U.S. metallurgical coal producers.

Maintaining a Conservative Capital Structure and Prudently Managing the Business for the Long Term. We are committed to maintaining a conservative capital structure with a reasonable amount of debt that will afford us the financial flexibility to execute our business strategies on an ongoing basis.

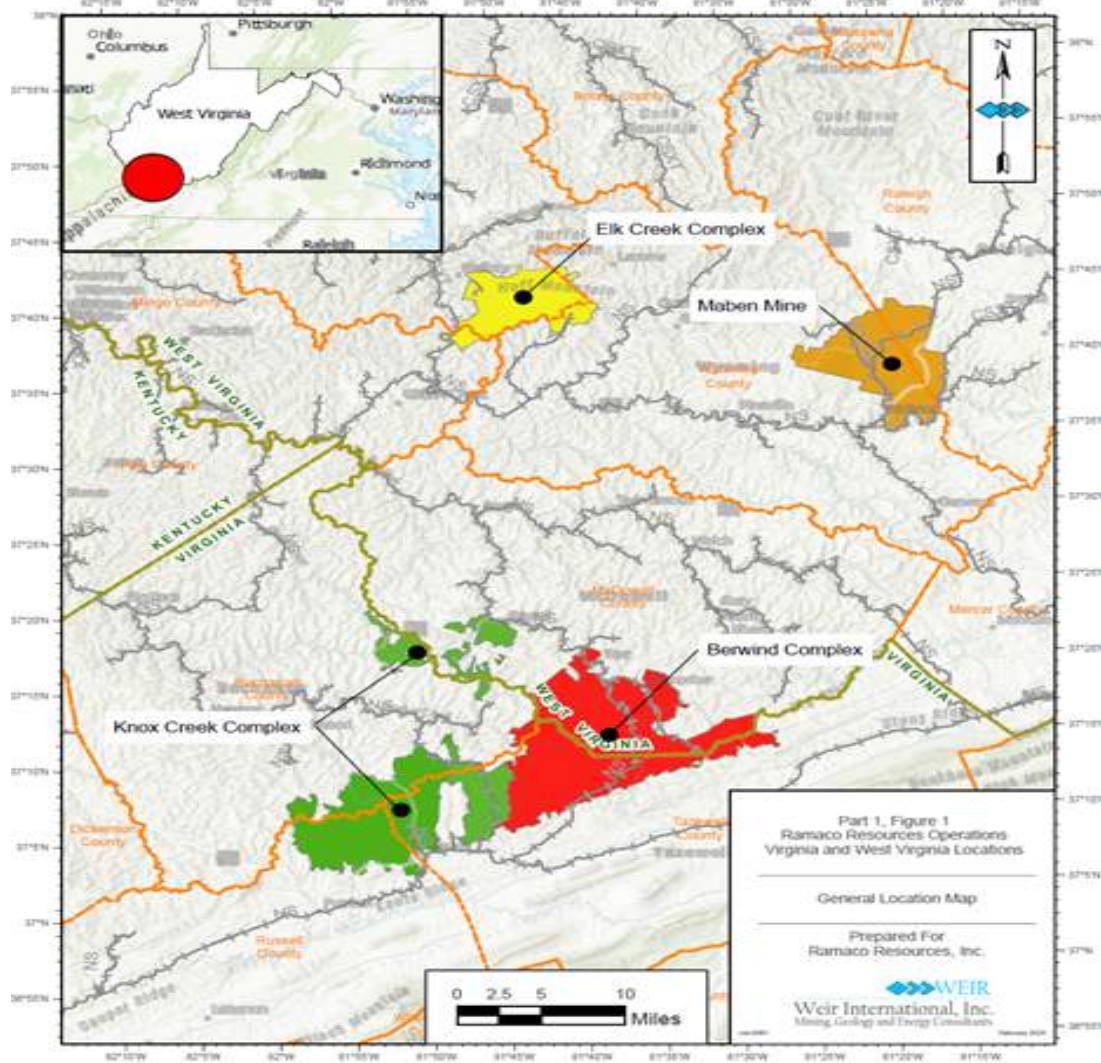
Enhancing Coal Purchase Opportunities. Depending on market conditions, we purchase coal from other independent producers. Purchased coal is complementary from a blending standpoint with our produced coals or it may also be sold as an independent product.

Demonstrating Excellence in Safety and Environmental Stewardship. We are committed to complying with both regulatory and our high standards for environmental and employee health and safety requirements. We believe that business excellence is achieved through the pursuit of safer and more productive work practices.

Advancing our Initiatives in Rare Earth Elements and Advanced Carbon Products. We are also focused on critical mineral rare earth development as well as the potential commercialization of coal-to-carbon-based products and materials. These initiatives provide additional growth opportunities and upside potential in future periods.

Our Projects

Our properties are primarily located in southern West Virginia, southwestern Virginia, southwestern Pennsylvania, and northeastern Wyoming. The following map shows the location of our mining complexes and projects, excluding our properties located in Pennsylvania and Wyoming:



Elk Creek Mining Complex

Our Elk Creek Complex in southern West Virginia began production in late December 2016. The Elk Creek property consists of approximately 20,200 acres of controlled mineral rights and contains 16 seams that we believe are economically mineable. Nearly all our seams contain high-quality, high-volatile metallurgical coal accessible at or above drainage. Additionally, almost all of this coal is high-fluidity, which is an important factor for high-volatile metallurgical coal.

We control the majority of the coal and related mining rights within the existing permitted areas and our current mine plans, as well as the surface for our surface facilities, through lease agreements with McDonald Land Company among others. We estimate that the Elk Creek Complex contains reserves capable of yielding approximately 28 million

tons of clean saleable metallurgical coal as well as measured and indicated metallurgical coal resource tons of 215 million. We estimate that the mine life for the Elk Creek Complex is over 20 years.

We currently market most of the coal produced from the Elk Creek Complex as a blended high-volatile A/B product. When segregated, a portion of our coal can be sold as a high-volatile A product for a premium. Our market for Elk Creek production is principally North American coke and steel producers. We also market our coal to European, South American, Asian and African customers, and occasionally to coal traders and brokers for use in filling orders for their blended products. Additionally, we seek to market a portion of our coal in the specialty coal markets that value low ash content.

We process our Elk Creek coal production through the preparation plant located on-site at the complex, which has a heavy-media vessel, large-diameter heavy-media cyclone, dual-stage spiral concentrators, froth flotation, horizontal vibratory and screen bowl centrifuges. Our rail load-out facilities at Elk Creek are served by the CSX railroad; however, we also have the ability to develop on controlled property a rail-loading facility on the Norfolk Southern railroad, which would facilitate dual rail service. We have not yet committed capital for the development of a Norfolk Southern rail facility.

The combined refuse capacity at the active disposal areas is expected to provide over 20 years of disposal life for our operations with additional refuse areas being permitted. We completed construction of a full complement of plate presses during 2020 to allow for dewatering of material which then was being pumped as slurry to our impoundment. This equipment allows us to process all waste material for placement in areas designed for combined refuse disposal and maximize the life for disposal of fine waste rock in the pool of the impoundment.

A large portion of our controlled reserves are permitted through existing, issued permits, and we continue actively pursuing multiple new permits.

On January 3, 2020, we entered into a mineral lease with the McDonald Land Company for coal reserves which, in many cases, are located immediately adjacent to our Elk Creek Complex. This leased property became available after the former base lease with another party was terminated. The prior lessee, who controlled the property since 1978, did not produce commercial amounts of coal from the property during their possession of the lease. While it is unusual to have a metallurgical reserve in this part of Central Appalachia remain idle for such an extended period of time, the configuration and location of the tracts lend themselves to be mined and processed far more efficiently from our Elk Creek property. The McDonald reserves have the same geologic advantages and low costs that are being experienced in our Elk Creek mines.

During 2022, we began work on a throughput upgrade at our Elk Creek Preparation plant. The upgrade, which was completed in 2023, increased our annual processing capacity for this complex to approximately three million tons per year. In order to utilize the increased capacity, we also began development work on additional low-cost, high-volatile mines at Elk Creek, which began production during 2022.

Berwind Mining Complex

Our Berwind Complex is located on the border of West Virginia and Virginia and is well-positioned to fill the anticipated market for low-volatile coals. The Berwind property consists of approximately 62,500 acres of controlled mineral rights, including the Amonate acquisition. We estimate that the Berwind Complex contains reserves capable of yielding approximately 23 million tons of clean saleable metallurgical coal as well as measured and indicated metallurgical coal resource tons of 629 million. We estimate that the mine life for the Berwind Complex is over 20 years. We view Berwind as the second flagship complex for Ramaco.

Development of our Berwind Complex began in late 2017 in the thinner Pocahontas No. 3 seam and has since sloped up to current mining in the thicker Pocahontas No. 4 seam. In 2020, we suspended development at the Berwind Complex due to lower pricing and demand largely caused by the economic effects of COVID-19. In early 2021, as pricing and demand improved, Berwind development resumed, and we successfully reached the Pocahontas No. 4 seam

in late 2021. The Berwind Complex experienced an ignition event during the third quarter of 2022 that resulted in idling mining operations for one of the active mines. Production restarted for the idle mine in the first quarter of 2023.

We have the necessary permits for the Berwind Complex for our current and budgeted operations. A permit for our Squire Jim seam room-and-pillar underground mine was issued in 2020 and contains a large area of Squire Jim seam coal deposits. The Squire Jim seam of coal is the lowest known coal seam on the geologic column in this region, and due to the depth of cover has never been significantly explored. At this point, we do not anticipate activating this mining permit.

In December 2021, we acquired the Amonate Assets from Coronado, pursuant to an asset purchase agreement. The acquisition included a mine complex located in McDowell County, West Virginia and Tazewell County, Virginia adjacent and contiguous to the Company's existing Berwind Complex. The assets primarily consist of high-quality, low and mid-volatile metallurgical coal reserves and resources, much of which will be mined from the Company's Berwind Complex. Also purchased were several additional permitted mines and an idled 1.3 million ton per annum capacity coal preparation plant with a rail loading facility.

We began mine development on the Amonate Assets shortly after acquisition, and production began in the first quarter of 2022. The preparation plant and rail loading facility were refurbished in 2022 and began operation in the fourth quarter of 2022. Rail service is provided by Norfolk Southern.

Knox Creek Mining Complex

The Knox Creek Complex consists of approximately 64,050 acres of controlled mineral rights as well as a preparation plant, a coal-loading facility, and a refuse impoundment. Rail service is provided by Norfolk Southern.

The Tiller Mine slope face-up and shafts were idled before our acquisition of the property. The Company has spent limited amounts of capital to review the feasibility of a high-vol A metallurgical deep mine in the Jawbone seam of coal. This seam is located slightly above the Tiller Seam and would be accessed via a short slope from within the existing Tiller seam mine. Jawbone coal could flow through the same portal and slope as the idle Tiller mine. Production is expected to resume once warranted by market conditions. We estimate that the Knox Complex contains reserves capable of yielding approximately 8 million tons of clean saleable metallurgical coal as well as measured and indicated metallurgical coal resource tons of 275 million. We estimate that the mine life for the Knox Creek Complex is approximately 15 years.

From time to time, we process coal purchased from other independent producers at the Knox Creek preparation plant and load-out facilities. We have also processed and loaded coal from our Berwind Complex at this facility.

In the fourth quarter of 2019, we acquired multiple permits from various affiliates of Omega Highwall Mining, LLC. These permits are in close proximity to our Knox Creek preparation plant and loadout infrastructure and provide immediate access to two separate mining areas in Southwestern Virginia. One is a deep mine permit in the Jawbone Seam, a geologically advantaged metallurgical coal reserve and resource. The second is a metallurgical surface mine in the Tiller seam that is mined via surface and highwall mining methods.

In August 2021, we began production at the Big Creek surface mine. We added a highwall miner in the fourth quarter of 2021. The mine reached full production during 2023.

RAM Mine

Following years of delays, the Pennsylvania Department of Environmental Protection issued a denial of the RAM Mine permit in southwest Pennsylvania. While the Company believes that the RAM permit was denied incorrectly and capriciously, we will not appeal the denial of the permit and will instead focus on our other core properties and monetize these assets at the appropriate time.

Maben Complex

The Maben property is located in southern West Virginia and consists of approximately 28,000 acres of controlled mineral rights acquired from the purchase of Maben Coal in the third quarter of 2022. As part of the transaction, we assumed existing mining permits issued by the West Virginia Department of Environmental Protection, which authorizes mining by both surface and highwall mining methods as well as by underground methods. The property also has issued permits covering an existing haul road as well as an active refuse disposal area together with a preparation plant and unit train loadout, neither of which had been constructed as of the closing date. In early 2024, the Company completed the purchase of an existing coal preparation plant, which will be relocated to the Company's Maben Complex.

The Maben property contains various areas of high-quality low-vol metallurgical coal in the Sewell, Beckley, Pocahontas 3, Pocahontas 4, and Pocahontas 6 seams of coal. The Company expects that coal contained in the Sewell seam will be mined by surface and high-wall mining methods. Initial production began in 2023, reaching an annualized production rate of approximately 250,000 tons of low-volatile coal. The Company will consider deep mine development of coal contained in Beckley, Pocahontas 3, 4, and 6 seams at a future point. Although the Company currently utilizes the Berwind preparation plant, such development would require the construction of a new preparation plant and loadout as mentioned above, which is under way.

Brook Mine

The property is located in northeastern Wyoming, near Sheridan, and consists of approximately 16,000 acres of controlled mineral rights and a research and development facility that were acquired as part of the purchase of Ramaco Coal during 2022. The property includes a thermal coal deposit and permit as well as occurrences of rare earth elements. The mine is currently undergoing mineral analysis and core drilling assessment to assess the potential concentrations of rare earth elements. This property is being used to support the Company's possible expansion into the manufacture and commercialization of advanced carbon products and materials from coal.

Three drillhole programs involving a total of 123 new core drillholes specifically targeting rare earth elements (REEs) have been completed within the current Brook Mine permit area. So far, the results of these drilling programs indicate elevated levels of REEs, along with significant concentrations of other critical elements such as Yttrium, Gallium, and Germanium. Work is ongoing to evaluate the potential exploitation of these minerals within the current Brook Mine permit area.

Customers and Contracts

Coal prices differ substantially by region and are impacted by many factors including the overall economy, demand for steel, demand for electricity, location, market, quality and type of coal, mine operation costs and the cost of customer alternatives. The major factors influencing our business are the global economy and demand for steel.

We market the bulk of our production to North American integrated steel mills and coke plants, as well as international customers in Europe, South America, Asia and Africa. Additionally, we market limited amounts of our production to various premium-priced specialty markets, such as foundry cokemakers, manufacturers of activated carbon products, and specialty metals producers.

Coal quality and volumes are stipulated in coal sales agreements, and, in many cases, the annual pricing and volumes are fixed. Our contracts with customers typically require us to deliver coal with minimum specifications or qualities. Variances from these specifications or qualities are settled by employing price adjustments.

Generally, the Company's domestic sales contracts have terms of about one year and the pricing is typically fixed. Export sales have spot or term contracts, and pricing can be either fixed or derived against index-based pricing mechanisms.

We sold 3.5 million tons of coal during 2023. Of this, 33% was sold to North American markets and 67% was sold into export markets, excluding Canada. Principally, our export market sales were made to Europe. During 2023, sales to three customers accounted for approximately 41% of total revenue. No other customer accounted for 10% or more of our total revenue during 2023. If a major customer decided to stop purchasing coal or significantly reduced its purchases from us, revenue could decline and our operating results and financial condition could be adversely affected.

Trade Names, Trademarks and Patents

We do not have any registered trademarks or trade names for our traditional products and services or subsidiaries, nor do we believe that any trademark or trade name is material to our metallurgical coal business. The names of the seams in which we have coal reserves, and attributes thereof, are widely recognized in the metallurgical coal market. However, trademarks related to our advanced carbon products business could become material depending on future developments.

In connection with our advanced carbon products business, the Company holds 61 intellectual property patents and pending patents related to the conversion of low-cost carbon ore into higher-value carbon products as well as exclusive licensing agreements, all of which have a remaining duration of 14-20 years.

Competition

Our principal domestic competitors include Alpha Metallurgical Resources, Inc., Blackhawk Mining, LLC, Coronado Global Resources Inc., Arch Resources, Inc., Peabody Energy Corporation and Warrior Met Coal, Inc. We also compete in international markets directly with domestic companies and with companies that produce coal from one or more foreign countries, such as Australia, Canada, and Colombia. Many of these coal producers are larger than we are and have greater financial resources and larger reserve bases than we do.

Suppliers

Supplies used in our business include petroleum-based fuels, explosives, tires, conveyance structure, ventilation supplies, lubricants and other raw materials as well as spare parts and other consumables used in the mining process. We use third-party suppliers for a significant portion of our equipment rebuilds and repairs, drilling services and construction. We believe adequate substitute suppliers and contractors are available, and we are not dependent on any one supplier or contractor. We continually seek to develop relationships with suppliers and contractors that focus on reducing our costs while improving quality and service.

Environmental, Health and Safety and Other Regulatory Matters

Our operations are subject to numerous federal, state, and local environmental, health and safety laws and regulations, such as those relating to permitting and licensing matters, employee health and safety, reclamation and restoration of mining properties, water discharges, air emissions, plant and wildlife protection, the storage, treatment and disposal of certain materials (including solid and hazardous wastes), remediation of contaminated sites, surface subsidence from underground mining and the effects of mining on surface water and groundwater conditions.

Compliance with these laws and regulations may be costly and time-consuming, delay the commencement, continuation or expansion of exploration or production at our facilities, and depress demand for our products by imposing more stringent requirements and limits on our customers' operations. Moreover, these laws are constantly evolving, and the trend has been for increasingly complex and stringent regulation over time. New legislative or administrative proposals, or judicial interpretations of existing laws and regulations related to the protection of the environment could result in substantially increased capital, operating and compliance costs.

Due in part to these extensive and comprehensive regulatory requirements and ever-changing interpretations of these requirements, violations of these laws can occur from time to time in our industry and also in our operations. Expenditures relating to environmental compliance are a major cost consideration for our operations and safety and

compliance is a significant factor in mine design, both to meet regulatory requirements and to minimize long-term environmental liabilities.

The following is a summary of the various federal and state environmental and similar regulations that have a material impact on our business:

Surface Mining Control and Reclamation Act. The Surface Mining Control and Reclamation Act of 1977 (the “SMCRA”) establishes comprehensive operational, reclamation and closure standards for our mining operations and requires that such standards be met during the course of and following completion of mining activities. The SMCRA also stipulates compliance with many other major environmental statutes, including the Clean Air Act (the “CAA”), the Clean Water Act (the “CWA”), the Endangered Species Act (the “ESA”), the Resource Conservation and Recovery Act (the “RCRA”) and the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (the “CERCLA”). Permits for all mining operations must be obtained from the United States Office of Surface Mining Reclamation and Enforcement (the “OSMRE”) or, where state regulatory agencies have adopted federally approved state programs under SMCRA, the appropriate state regulatory authority. Our operations are located in West Virginia and Virginia, which have achieved primary jurisdiction for enforcement of SMCRA through approved state programs.

The SMCRA imposes a complex set of requirements covering all facets of coal mining. SMCRA regulations govern, among other things, coal prospecting, mine plan development, topsoil or growth medium removal and replacement, disposal of excess spoil and coal refuse, protection of the hydrologic balance, and suitable post mining land uses.

From time to time, the OSMRE will also update its mining regulations under the SMCRA. For example, the OSMRE has previously sought to impose stricter stream protection requirements by requiring more extension pre-mining and baseline data for coal mining operations. The rule was disapproved by Congress pursuant to the Congressional Review Act. However, whether Congress will enact future legislation to require a new stream protection rule remains uncertain. The existing rules, or other new SMCRA regulations, could result in additional material costs, obligations and restrictions upon our operations.

Abandoned Mine Lands Fund. The SMCRA also imposes a reclamation fee on all current mining operations, the proceeds of which are deposited in the Abandoned Mine Reclamation Fund (the “AML Fund”), which is used to restore unreclaimed and abandoned mine lands mined before 1977. The adjusted fees proposed in the Interim Final Rule per ton for October 1, 2021 through September 30, 2034 are (i) 22.4 cents per ton for surface-mined anthracite, bituminous, and subbituminous coal if the value per ton is \$2.24 per ton or more, (ii) 9.6 cents per ton for underground-mined anthracite, bituminous, and subbituminous coal if the value per ton is \$0.96 per ton, and (iii) 6.4 cents per ton for surface- and underground-mined lignite coal if the value per ton is \$3.20 per ton or more. The Interim Final Rule took effect in August 2022. Estimates of our total reclamation and mine-closing liabilities are based upon permit requirements and our experience related to similar activities. If these accruals are insufficient or our liability in a particular year is greater than currently anticipated, our future operating results could be adversely affected.

Mining Permits and Approvals. Numerous governmental permits and approvals are required for mining operations. We are required to prepare and present to federal, state, and local authorities data detailing the effect or impact that any proposed exploration project for production of coal may have upon the environment, the public and our employees. The permitting rules are complex and continuously updated, and may be subject to discretionary interpretations by regulators. Further, the laws, rules, and regulations that govern our mining operations authorize substantial fines and penalties, including revocation or suspension of mining permits under some circumstances. Monetary sanctions and, in certain circumstances, even criminal sanctions may be imposed for failure to comply with these laws. Compliance with required permits and associated regulations may have a material adverse impact on our operations, earnings, or financial condition.

Applications for permits and permit renewals associated with our mining operations are also subject to public comment and potential legal challenges from third parties seeking to prevent a permit from being issued, or to overturn the applicable agency’s grant of the permit. Should our permitting efforts become subject to such challenges, the permits may not be issued in a timely fashion, may impose requirements which restrict our ability to conduct our mining

operations or to do so profitably, or may not be issued at all. Any delays, denials, or revocation of these or other similar permits we need to operate could reduce our production and materially adversely impact our cash flow and results of our operations.

In order to obtain mining permits and approvals from state regulatory authorities, mine operators must also submit a reclamation plan for restoring the mined property to its prior condition, productive use or other permitted condition. The conditions of certain permits also require that we obtain surface-owner consent if the surface estate has been split from the mineral estate. This requires us to negotiate with third parties for surface access that overlies coal we acquired or intend to acquire. These negotiations can be costly and time-consuming, lasting years in some instances, which can create additional delays in the permitting process. If we cannot successfully negotiate for land access, we could be denied a permit to mine coal we already own.

Finally, we typically submit necessary mining permit applications several months, or even years, before we anticipate mining a new area. However, we cannot control the pace at which the government issues permits needed for new or ongoing operations. For example, the process of obtaining CWA permits can be particularly time-consuming and subject to delays and denials. The Environmental Protection Agency (the “EPA”) also has the authority to veto permits issued by the U.S. Army Corps. of Engineers (the “Corps”) under the CWA’s Section 404 program that prohibits the discharge of dredged or fill material into regulated waters without a permit. Even after we obtain the permits that we need to operate, many of the permits must be periodically renewed, or may require modification. There is some risk that not all existing permits will be approved for renewal, or that existing permits will be approved for renewal only upon terms that restrict or limit our operations in ways that may be material.

Financial Assurance. Federal and state laws require a mine operator to secure the performance of its reclamation and lease obligations under the SMCRA through the use of surety bonds or other approved forms of financial security for payment of certain long-term obligations, including mine closure or reclamation costs. The changes in the market for coal used to generate electricity in recent years have led to bankruptcies involving prominent coal producers. Several of these companies relied on self-bonding to guarantee their responsibilities under the SMCRA permits including for reclamation. In response to these bankruptcies, the OSMRE issued a policy advisory in August 2016 to state agencies that was intended to discourage authorized states from approving self-bonding arrangements (the “Policy Advisory”). Although the Policy Advisory was rescinded in October 2017, certain states, including Virginia, had previously announced that they would no longer accept self-bonding to secure reclamation obligations under the state mining laws. Additionally, in March 2018, the Government Accounting Office recommended that Congress consider amending the SMCRA to eliminate the availability of self-bonding to guarantee responsibilities under SMCRA permits. Individually and collectively, these and future revised various financial assurance requirements may increase the amount of financial assurance needed and limit the types of acceptable instruments, straining the capacity of the surety markets to meet demand. This may delay the timing for and increase the costs of obtaining the required financial assurance.

We use surety bonds, trusts and letters of credit to provide financial assurance for certain transactions and business activities. Federal and state laws require us to obtain surety bonds to secure payment of certain long-term obligations including mine closure or reclamation costs and other miscellaneous obligations. The bonds are renewable on a yearly basis. Surety bond rates have increased in recent years and the market terms of such bonds have generally become less favorable. Sureties typically require coal producers to post collateral, often having a value equal to 40% or more of the face amount of the bond. As a result, we may be required to provide collateral, letters of credit or other assurances of payment in order to obtain the necessary types and amounts of financial assurance. Under our surety bonding program, we are not currently required to post any letters of credit or other collateral to secure the surety bonds; obtaining letters of credit in lieu of surety bonds could result in a significant cost increase. Moreover, the need to obtain letters of credit may also reduce amounts that we can borrow under any senior secured credit facility for other purposes. If, in the future, we are unable to secure surety bonds for these obligations and are forced to secure letters of credit indefinitely or obtain some other form of financial assurance at too high of a cost, our profitability may be negatively affected.

We intend to maintain a credit profile that precludes the need to post collateral for our surety bonds. Nonetheless, our surety has the right to demand additional collateral at its discretion.

Some international customers require new suppliers to post performance guarantees during the initial stages of qualifying to become a long-term supplier. To date we have not had to provide a performance guarantee, but it is possible that such a guarantee could be required in the future.

Mine Safety and Health. The Federal Mine Safety and Health Act of 1977, as amended (the “MINE Act”) and the Mine Improvement and New Emergency Response Act of 2006 (the “MINER Act”), and regulations issued under these federal statutes, impose stringent health and safety standards on mining operations. The regulations that have been adopted under the Mine Act and the MINER Act are comprehensive and affect numerous aspects of mining operations, including training of mine personnel, mining procedures, roof control, ventilation, blasting, use and maintenance of mining equipment, dust and noise control, communications, emergency response procedures, and other matters. The Mine Safety and Health Administration (the “MSHA”) regularly inspects mines to ensure compliance with regulations promulgated under the Mine Act and MINER Act.

Pennsylvania, West Virginia, and Virginia all have similar programs for mine safety and health regulation and enforcement. The various requirements mandated by federal and state statutes, rules, and regulations place restrictions on our methods of operation and result in fees and civil penalties for violations of such requirements or criminal liability for the knowing violation of such standards, significantly impacting operating costs and productivity.

The regulations enacted under the Mine Act and MINER Act as well as under similar state acts are routinely expanded or made more stringent, raising compliance costs and increasing potential liability. Our compliance with current or future mine health and safety regulations could increase our mining costs. At this time, it is not possible to predict the full effect that new or proposed statutes, regulations and policies will have on our operating costs, but any expansion of existing regulations, or making such regulations more stringent, may have a negative impact on the profitability of our operations. If we were to be found in violation of mine safety and health regulations, we could face penalties or restrictions that may materially and adversely impact our operations, financial results and liquidity.

In addition, government inspectors have the authority to issue orders to shut down our operations based on safety considerations under certain circumstances, such as imminent dangers, accidents, failures to abate violations, and unwarrantable failures to comply with mandatory safety standards. If an incident were to occur at one of our operations, it could be shut down for an extended period of time, and our reputation with prospective customers could be materially damaged. Moreover, if one of our operations is issued a notice of pattern of violations, then MSHA can issue an order withdrawing the miners from the area affected by any enforcement action during each subsequent significant and substantial (“S&S”) citation until the S&S citation or order is abated.

Workers’ Compensation and Occupational Disease. We are insured for workers’ compensation benefits for work related injuries that occur within our United States operations. We retain insurance coverage for all of our subsidiaries and are insured for the statutory limits. Workers’ compensation liabilities, including those related to claims incurred but not reported, are recorded principally using annual valuations based on discounted future expected payments using historical data of the operating subsidiary or combined insurance industry data when historical data is limited. State workers’ compensation acts typically provide for an exception to an employer’s immunity from civil lawsuits for workplace injuries in the case of intentional torts. However, West Virginia’s workers’ compensation act provides a much broader exception to workers’ compensation immunity. The exception allows an injured employee to recover against his or her employer where he or she can show damages caused by an unsafe working condition of which the employer was aware that was a violation of a statute, regulation, rule or consensus industry standard. These types of lawsuits are not uncommon and could have a significant impact on our operating costs.

In addition, we obtained from a third-party insurer a workers’ compensation insurance policy, which includes coverage for medical and disability benefits for occupational disease under the Federal Coal Mine Health and Safety Act of 1969 and the Mine Act. Under the Black Lung Benefits Revenue Act of 1977 and the Black Lung Benefits Reform Act of 1977, as amended in 1981, each coal mine operator must pay federal black lung benefits to claimants who are current and former employees and also make payments to a trust fund for the payment of benefits and medical expenses to claimants who last worked in the coal industry prior to January 1, 1970.

The Patient Protection and Affordable Care Act of 2010 includes significant changes to the federal black lung program including an automatic survivor benefit paid upon the death of a miner with an awarded black lung claim and the establishment of a rebuttable presumption with regard to pneumoconiosis among miners with 15 or more years of coal mine employment that are totally disabled by a respiratory condition. These changes could have a material impact on our costs expended in association with the federal black lung program. In addition to possibly incurring liability under federal statutes, we may also be liable under state laws for black lung claims.

Clean Air Act. The CAA and comparable state laws that regulate air emissions affect coal mining operations both directly and indirectly. Direct impacts on coal mining and processing operations include CAA permitting requirements and emission control requirements relating to air pollutants, including particulate matter such as fugitive dust. The CAA indirectly impacts coal mining operations by extensively regulating the emissions of particulate matter, sulfur dioxide, nitrogen oxides, mercury and other compounds emitted by coal-fired power plants. In addition to the greenhouse gas (“GHG”) issues discussed below, the air emissions programs that may materially and adversely affect our operations, financial results, liquidity, and demand for our coal, directly or indirectly, include, but are not limited to, the following:

- *Cross-State Air Pollution Rule.* In July 2011, the EPA finalized the Cross-State Air Pollution Rule (the “CSAPR”), a cap-and-trade program that requires 28 states in the Midwest and eastern seaboard of the U.S. to reduce power plant emissions that cross state lines and contribute to ozone and/or fine particle pollution in other states. In September 2016, the EPA finalized a rule that further limited summertime (May-September) nitrogen oxide emissions from power plants in 22 states in the eastern United States beginning in May 2017 (the “CSAPR Update Rule”). For states to meet these requirements, a number of coal-fired electric generating units will likely need to be retired, rather than retrofitted with the necessary emission control technologies, reducing demand for thermal coal. Moreover, in September 2019, the United States Court of Appeals for the District of Columbia Circuit (“D.C. Circuit”) remanded the CSAPR Update Rule to the EPA on the grounds that it failed to timely require upwind states to control or eliminate their contribution to ozone and/or fine particulate matter in downwind states, as required under the CAA. In October 2020, the EPA proposed a Revised CSAPR Update Rule in response to the D.C. Circuit’s ruling, which was finalized in April 2021. The final rule resolves 21 states’ outstanding interstate pollution transport obligations and would require additional emissions reductions of nitrogen oxides from power plants in 12 states. Imposition of stricter deadlines for controlling downwind contribution could accelerate unit retirements or the need to implement emission control strategies. Any reduction in the amount of coal consumed by electric power generators as a result of these limitations could decrease demand for thermal coal.
- *Acid Rain.* Title IV of the CAA requires reductions of sulfur dioxide emissions by electric utilities and applies to all coal-fired power plants generating greater than 25 megawatts of power. Affected power plants have sought to reduce sulfur dioxide emissions by switching to lower sulfur fuels, installing pollution control devices, reducing electricity generating levels or purchasing or trading sulfur dioxide emission allowances. These reductions could impact our customers in the electric generation industry. These requirements are not supplanted by the CSAPR.
- *NAAQS for Criterion Pollutants.* The CAA requires the EPA to set standards, referred to as National Ambient Air Quality Standards (“NAAQS”), for six common air pollutants: carbon monoxide, nitrogen dioxide, lead, ozone, particulate matter (“PM”) and sulfur dioxide. Areas that are not in compliance (referred to as “non-attainment areas”) with these standards must take steps to reduce emissions levels. The EPA has adopted NAAQS for carbon monoxide, nitrogen dioxide, lead, sulfur dioxide, PM and ground-level ozone. The CAA further requires the EPA to periodically review and revise the NAAQS, resulting in the trend of more stringent standards over time. In February 2024, for example, the EPA published a final rule that revised the primary annual PM_{2.5} standard by lowering the level from 12.0 µg/m³ to 9.0 µg/m³. States with non-attainment areas must adopt a state implementation plan that demonstrates compliance with the existing or new air quality standards. These plans could require significant additional emissions control expenditures at coal-fired power plants. New rules and standards may also impose additional emissions control requirements on our customers in the electric generation, steelmaking, and coke industries. Because

coal mining operations emit particulate matter and sulfur dioxide, our mining operations could be affected when the new standards are implemented by the states.

- *Mercury and Hazardous Air Pollutants.* The EPA has established emission standards for mercury and other metals, fine particulates, and acid gases from coal- and oil-fired power plants through the Mercury and Air Toxics Standards (“MATS”) rule. Like CSAPR, MATS and other similar future regulations could accelerate the retirement of a significant number of coal-fired power plants. Such retirements would likely adversely impact our business.

Global Climate Change. Climate change continues to attract considerable public and scientific attention. There is widespread concern about the contributions of human activity to such changes, especially through the emission of GHGs. Numerous reports from scientific and governmental bodies such as the United Nations Intergovernmental Panel on Climate Change have expressed heightened concerns about the impacts of human activity, especially fossil fuel combustion, on the global climate. There are three primary sources of GHGs associated with the coal industry. First, the end use of our coal by our customers in electricity generation, coke plants, and steelmaking is a source of GHGs. Second, combustion of fuel by equipment used in coal production and to transport our coal to our customers is a source of GHGs. Third, coal mining itself can release methane, which is considered to be a more potent GHG than carbon dioxide, directly into the atmosphere. These emissions from coal consumption, transportation and production are subject to pending and proposed regulation as part of initiatives to address global climate change.

As a result, numerous proposals have been made and are likely to continue to be made at the international, national, regional, state and local levels of government to monitor and limit emissions of GHGs. Collectively, these initiatives could result in higher electric costs to our customers or lower the demand for coal used in electric or steel generation, which could in turn adversely impact our business.

At present, we are principally focused on metallurgical coal production, which is not used in connection with the production of power generation. However, we may seek to sell greater amounts of our coal into the power-generation market in the future. The market for our coal may be adversely impacted if comprehensive legislation or regulations focusing on GHG emission reductions are adopted, or if our customers are unable to obtain financing for their operations.

At the international level, in April 2016, the United States joined the international community at the 21st Conference of the Parties of the United Nations Framework Convention on Climate Change in Paris, France, which resulted in an agreement intended to nationally determine their contributions and set GHG emission reduction goals every five years beginning in 2020. In November 2019, plans were formally announced for the U.S. to withdraw from the Paris Agreement with an effective exit date in November 2020. In February 2021, the current administration announced reentry of the U.S. into the Paris Agreement along with a new “nationally determined contribution” for U.S. GHG emissions that would achieve emissions reductions of at least 50% relative to 2005 levels by 2030. In addition, shortly after taking office in January 2021, President Biden issued a series of executive orders designed to address climate change. In November 2021, the 26th Conference of the Parties to the United Nations Framework on Climate Change concluded with the finalization of the Glasgow Climate Pact, which aims to cut global methane pollution at least 30% by 2030 relative to 2020 levels, including “all feasible reductions” in the energy sector. Forty-six countries signed onto a Global Coal to Clean Energy Transition Statement, committing to transition away from unabated coal power generation by about 2030 for “major economies” and a global transition by roughly 2040. Most recently, at the 27th conference of parties (“COP27”), President Biden announced the EPA’s proposed standards to reduce methane emissions from existing oil and gas sources, and agreed, in conjunction with the European Union and a number of other partner countries, to develop standards for monitoring and reporting methane emissions to help create a market for low methane-intensity natural gas. Various state and local governments have also publicly committed to furthering the goals of the Paris Agreement. International commitments, reentry into the Paris Agreement and President Biden’s executive orders may result in the development of additional regulations or changes to existing regulations that may impact our business.

The \$1 trillion legislative infrastructure package passed by Congress in November 2021 includes a number of climate-focused spending initiatives targeted at climate resilience, enhanced response and preparation for extreme

weather events, and clean energy and transportation investments. In August 2022, President Biden signed the Inflation Reduction Act of 2022 into law. The law provides significant funding and incentives for research and development of low-carbon energy production methods, carbon capture, and other programs directed at addressing climate change. The Inflation Reduction Act of 2022 also provides significant funding for research and development of low-carbon energy production methods, carbon capture, and other programs directed at addressing climate change.

Furthermore, the EPA has determined that emissions of GHGs present an endangerment to public health and the environment, because emissions of GHGs are, according to the EPA, contributing to the warming of the earth's atmosphere and other climatic changes. Based on these findings, the EPA, over time, has attempted to restrict emissions of GHGs under existing provisions of the CAA. For example, in August 2015, the EPA finalized the Clean Power Plan (the "CPP") to cut carbon emissions from existing power plants, which did not formally go into effect because the U.S. Supreme Court stayed its implementation in February 2016. In July 2019, the EPA adopted the Affordable Clean Energy Rule (the "ACE Rule") that repealed and replaced the CPP. The ACE Rule required states to set appropriate GHG emission standards for power plants within their jurisdiction based upon the application of "candidate" heat rate improvement measures. In January 2021, the D.C. Circuit vacated the ACE Rule and remanded it to the agency for further proceedings. In February 2021, the EPA issued a memorandum stating the agency's position that neither the Clean Power Plan nor the ACE Rule are in effect, and future regulation of carbon dioxide emissions from existing power generation facilities remains uncertain. In May 2023, the EPA proposed revised new source performance standards for GHG emissions from new and reconstructed power plants that undertake a large modification. The finalization of this rule and any future rules or future GHG emission standards may encourage a shift away from coal-fired power generation, adversely impacting the market for our product.

Additionally, on March 6, 2024, the SEC adopted final rules to require registrants to disclose certain climate-related information in registration statements and annual reports. The final rules will require the Company to disclose, among other things, material climate-related risks, information about our board of directors' ("Board") oversight of climate-related risks, management's role in managing material climate-related risks, and Scope 1 and Scope 2 greenhouse gas emissions. Compliance with these rules will be phased in over time based on our filing status as well as the content of the disclosure and assurance requirements. Although the Company is in the process of evaluating the new rules, compliance may result in increased legal, accounting, and other compliance-related costs, as well as place strain on our personnel, systems, and resources.

At the state level, several states, including Pennsylvania and Virginia, have already adopted measures requiring GHG emissions to be reduced within state or regional boundaries, including cap-and-trade programs and the imposition of renewable energy portfolio standards. Various states and regions have also adopted GHG initiatives, and certain governmental bodies have imposed, or are considering the imposition of, fees or taxes based on the emission of GHGs by certain facilities. A number of states have also enacted legislative mandates requiring electricity suppliers to use renewable energy sources to generate a certain percentage of power. Furthermore, many state and local leaders have intensified or stated their intent to intensify efforts to support international climate commitments and treaties.

The extent of future regulation of GHG emissions may inhibit utilities from investing in the building of new coal-fired plants to replace older plants or investing in the upgrading of existing coal-fired plants. Any reduction in the amount of coal consumed by electric power generators as a result of actual or potential regulation of GHG emissions could decrease demand for thermal coal, thereby reducing our revenue and adversely affecting our business and results of operations. We or our prospective customers may also have to invest in carbon dioxide capture and storage technologies in order to burn coal and comply with future GHG emission standards.

Finally, there have been attempts to encourage the reduction of coalbed methane emissions because methane has a greater GHG effect than carbon dioxide and can give rise to safety concerns. For example, the EPA has established the Coalbed Methane Outreach Program in an effort to mitigate methane emissions from underground coal mines through voluntary initiatives and outreach in partnership with the coal industry. If new laws or regulations were introduced to reduce coalbed methane emissions, those rules could adversely affect our costs of operations by requiring installation of air pollution controls, higher taxes, or costs incurred to purchase credits that permit us to continue operations.

Clean Water Act. The CWA and corresponding state laws and regulations affect coal mining operations by restricting the discharge of pollutants, including dredged or fill materials, into waters of the United States. Likewise, permits are required under the CWA to construct impoundments, fills or other structure in areas that are designated as waters of the United States. For example, prior to placing fill material in waters of the United States, such as with the construction of a valley fill, coal mining companies are required to obtain a permit from the Corps under Section 404 of the CWA. The permit can be either a Nationwide Permit (“NWP”), normally NWP 21, 49 or 50 for coal mining activities, or a more complicated individual permit. NWPs are designed to allow for an expedited permitting process, while individual permits involve a longer and more detailed review process. The EPA has the authority to veto permits issued by the Corps under the CWA’s Section 404 program that prohibits the discharge of dredged or fill material into regulated waters without a permit. Additionally, recent court decisions, regulatory actions and proposed legislation have created uncertainty over CWA jurisdiction and permitting requirements, such as (1) an April 2020 decision further defining the scope of the CWA, wherein the U.S. Supreme Court held that, in certain cases, discharges from a point source to groundwater could fall within the scope of the CWA and require a permit and (2) a May 2023 decision further defining the scope of the CWA, wherein the U.S. Supreme Court held that discharges from a point source to a wetland could fall within the scope of the CWA and require a permit if the adjacent body of water is a relatively permanent body of water connected to traditional interstate navigable waters and the wetland has a continuous surface connection with that water.

Prior to discharging any pollutants into waters of the United States, coal mining companies must obtain a National Pollutant Discharge Elimination System (“NPDES”) permit from the appropriate state or federal permitting authority. NPDES permits include effluent limitations for discharged pollutants and other terms and conditions, including required monitoring of discharges. Failure to comply with the CWA or NPDES permits can lead to the imposition of significant penalties, litigation, compliance costs and delays in coal production. Potential changes in state and federally recommended water quality standards may result in the issuance or modification of permits with new or more stringent effluent limits or terms and conditions. For instance, waters designated by states as impaired (i.e., as not meeting current water quality standards) are subject to Total Maximum Daily Load (“TMDL”) regulations, which may lead to the adoption of more stringent discharge standards for our coal mines and could require more costly treatment. Likewise, the water quality of certain receiving streams requires an anti-degradation review before approving any discharge permits. TMDL regulations and anti-degradation policies may increase the cost, time and difficulty associated with obtaining and complying with NPDES permits. In addition, in certain circumstances private citizens may challenge alleged violations of NPDES permit limits in court. Recently, certain citizen groups have filed lawsuits alleging ongoing discharges of pollutants, including selenium and conductance, from valley fills located at certain mining sites in some of the regions where we operate. In West Virginia, several of these cases have been successful for the challengers. While it is difficult to predict the outcome of any potential or future suits, such litigation could result in increased compliance costs following the completion of mining at our operations.

Finally, in June 2015, the EPA and the Corps published a new definition of “waters of the United States” (“WOTUS”) that would have expanded areas requiring NPDES or Corps Section 404 permits. This definition never took effect as it was replaced by the Navigable Waters Protection Rule (the “NWPR”) in December 2019. A coalition of states and cities, environmental groups and agricultural groups challenged the NWPR, which was vacated by the U.S. District Court for the District of Arizona in August 2021. In December 2022, the EPA and Corps announced the final “Revised Definition of ‘Waters of the United States’” rule. This rule is not currently operative in certain states and for certain parties due to ongoing litigation. In August 2023, the EPA and Corps issued a final rule to amend the “Revised Definition of ‘Waters of the United States’” rule in response to the U.S. Supreme Court’s May 2023 decision in the case of *Sackett v. Environmental Protection Agency*. In the jurisdictions and for the parties where the January 2023 rule is enjoined, the EPA and Corps are interpreting “waters of the United States” consistent with the U.S. Supreme Court’s decision in *Sackett* and the pre-2015 regulatory regime. To the extent a new rule or further litigation expands the scope of the CWA’s jurisdiction, the CWA permits we need may not be issued, may not be issued in a timely fashion, or may be issued with new requirements which restrict our ability to conduct mining operations or to do so profitably.

Resource Conservation and Recovery Act. The RCRA and corresponding state laws establish standards for the management of solid and hazardous wastes generated at our various facilities. Besides affecting current waste disposal practices, the RCRA also addresses the environmental effects of certain past hazardous waste treatment, storage and

disposal practices. In addition, the RCRA requires certain of our facilities to evaluate and respond to any past release, or threatened release, of a hazardous substance that may pose a risk to human health or the environment.

The RCRA may affect coal mining operations by establishing requirements for the proper management, handling, transportation and disposal of solid and hazardous wastes. For example, the EPA regulates coal ash as a solid waste under Subtitle D of the RCRA through its coal combustion residuals (“CCR”) rule. This rule establishes limits for the location of new sites and requires closure of sites that fail to meet prescribed engineering standards, regular inspections of impoundments, and immediate remediation and closure of unlined ponds that are polluting ground water. As initially promulgated, the rule exempted closed coal ash impoundments located at inactive facilities and allowed for the continued operation of unlined or clay-lined ponds that were not polluting groundwater. Additionally, in December 2016, Congress passed the Water Infrastructure Improvements for the Nation Act, which provided for the establishment of state and EPA permit programs for the control of CCR and authorizes states to incorporate the EPA’s final rule for CCR or develop other criteria that are at least as protective as the final rule. In May 2023, the EPA published proposed changes to the CCR rule for legacy CCR surface impoundments and a notice of data availability related to the proposed rule in November 2023. The finalization of this proposal, the current requirements of the CCR rules, as well as any future changes in the management of CCR, could increase our customers’ operating costs and potentially reduce their ability or need to purchase coal. In addition, contamination caused by the past disposal of CCR, including coal ash, could lead to material liability for our customers under the RCRA or other federal or state laws and potentially further reduce the demand for coal.

Currently, certain coal mine wastes, such as earth and rock covering a mineral deposit (commonly referred to as overburden) and coal cleaning wastes, are exempted from hazardous waste management under the RCRA. Any change or reclassification of this exemption could significantly increase our coal mining costs.

Comprehensive Environmental Response, Compensation and Liability Act. CERCLA and similar state laws affect coal mining operations by, among other things, imposing cleanup requirements for threatened or actual releases of hazardous substances into the environment. Under CERCLA and similar state laws, joint and several liability may be imposed on hazardous substance generators, site owners, transporters, lessees and others regardless of fault or the legality of the original disposal activity. Although the EPA excludes most wastes generated by coal mining and processing operations from the primary hazardous waste laws, such wastes can, in certain circumstances, constitute hazardous substances for the purposes of CERCLA. In addition, the disposal, release or spillage of some products used by coal companies in operations, such as chemicals listed as hazardous substances under CERCLA, could trigger the liability provisions of CERCLA or similar state laws. The EPA periodically evaluates the CERCLA list of hazardous substances. In September 2022, the EPA proposed to designate two per- and polyfluoroalkyl substances (“PFAS”), including their salts and structural isomers, as hazardous substances under CERCLA. This proposed rule, if finalized, may result in increased costs to cleanup properties at which the listed PFAS were released.

We may be subject to liability under CERCLA and similar state laws for coal mines that we currently own, lease or operate or that we or our predecessors have previously owned, leased or operated, and sites to which we or our predecessors sent hazardous substances. These liabilities could be significant and materially and adversely impact our financial results and liquidity.

Endangered Species and Bald and Golden Eagle Protection Acts. The ESA and similar state legislation protect species designated as threatened, endangered or other special status. The U.S. Fish and Wildlife Service (the “USFWS”) works closely with the OSMRE and state regulatory agencies to ensure that species subject to the ESA are protected from mining-related impacts. Several species indigenous to the areas in which we operate are protected under the ESA. Other species in the vicinity of our operations may have their listing status reviewed in the future and could also become protected under the ESA. In addition, the USFWS has identified bald eagle habitats in some of the counties where we operate. The Bald and Golden Eagle Protection Act prohibits taking certain actions that would harm bald or golden eagles without obtaining a permit from the USFWS. Compliance with the requirements of the ESA and the Bald and Golden Eagle Protection Act could have the effect of prohibiting or delaying us from obtaining mining permits. These requirements may also include restrictions on timber harvesting, road building and other mining or agricultural activities in areas containing the affected species or their habitats. There is also increasing interest in nature-related matters

beyond protected species, such as general biodiversity, which may similarly require us or our customers to incur costs or take measures which may adversely impact our business or operations.

Use of Explosives. Our surface mining operations are subject to numerous regulations relating to blasting activities. Due to these regulations, we will incur costs to design and implement blast schedules and to conduct pre-blast surveys and blast monitoring. In addition, the storage of explosives is subject to various regulatory requirements. For example, the Department of Homeland Security requires facilities in possession of chemicals of interest (including ammonium nitrate at certain threshold levels) to complete a screening review. Our mines are low risk, Tier 4 facilities which are not subject to additional security plans. The adoption of future, more stringent standards related to the use of explosives could materially adversely impact our cost or ability to conduct our mining operations.

National Environmental Policy Act. The National Environmental Policy Act (the “NEPA”) requires federal agencies, including the Department of Interior, to evaluate major agency actions that have the potential to significantly impact the environment, such as issuing a permit or other approval. In the course of such evaluations, an agency will typically prepare an environmental assessment to determine the potential direct, indirect and cumulative impacts of a proposed project. Where the activities in question have significant impacts to the environment, the agency must prepare an environmental impact statement. Compliance with the NEPA can be time-consuming and may result in the imposition of mitigation measures that could affect the amount of coal that we are able to produce from mines on federal lands, and may require public comment. Furthermore, whether agencies have complied with the NEPA is subject to protest, appeal or litigation, which can delay or halt projects. The NEPA review process, including potential disputes regarding the level of evaluation required for climate change impacts, may extend the time and/or increase the costs and difficulty of obtaining necessary governmental approvals, and may lead to litigation regarding the adequacy of the NEPA analysis, which could delay or potentially preclude the issuance of approvals or grant of leases.

On July 16, 2020, the Council on Environmental Quality (“CEQ”) revised NEPA’s implementing regulations to make the NEPA process more efficient, effective, and timely. The rule required federal agencies to develop procedures consistent with the new rule within one year of the rule’s effective date (which was extended to two years in June 2021). These regulations are subject to ongoing litigation in several federal district courts, and in October 2021, CEQ issued a notice of proposed rulemaking to amend the NEPA regulatory changes adopted in 2020 in two phases. Phase I of CEQ’s proposed rulemaking process was finalized on April 20, 2022 and generally restored provisions that were in effect prior to 2020. Phase II of the proposed rulemaking was published by CEQ in July 2023. Phase II proposes further revisions in an attempt to ensure the NEPA process “provides for efficient and effective environmental reviews,” and meets environmental, environmental justice, and climate change objectives. These rules could create additional delays and costs in the NEPA review process or in our operations, or even an inability to obtain necessary federal approvals for our operations due to the increased risk of legal challenges from environmental groups seeking additional analysis of climate impacts.

Other Environmental Laws. We are required to comply with numerous other federal, state, and local environmental laws and regulations in addition to those previously discussed. These additional laws include but are not limited to the Safe Drinking Water Act, the Toxic Substances Control Act, the Emergency Planning and Community Right-to-Know Act and similar state laws. Each of these laws can impact permitting or planned operations and can result in additional costs or operational delays.

Seasonality

Our primary business is not materially impacted by seasonal fluctuations. Demand for metallurgical coal is generally more heavily influenced by other factors such as the general economy, interest rates and commodity prices.

Human Capital Resources

We believe our employees are a competitive advantage. We seek to foster a culture that supports diversity, equity and inclusion, and strive to provide a safe, healthy and rewarding work environment with opportunities for growth. We had 811 employees as of December 31, 2023, including our named executive officers, and nearly all of our employees are full-time employees. None of our employees are covered by collective bargaining agreements, and we

have not experienced any strikes or work stoppages related to labor relation issues. We believe we have good relations with our employees. Our human capital resources objectives include, as applicable, identifying, recruiting, training, retaining, incentivizing and integrating our existing and additional employees. We also depend on experienced contractors and third-party consultants to conduct some of our day-to-day activities. We plan to continue to use the services of many of these contractors and consultants.

Safety Philosophy. We have a comprehensive health and safety program based on the core belief that all accidents and occupational illnesses are preventable. We believe that:

- Business excellence is achieved through the pursuit of safer and more productive work practices.
- Any task that cannot be performed safely should not be performed.
- Working safely is a requirement of our employees.
- Controlling the work environment is important, but human behavior within the work environment is paramount.
- Safety starts with individual decision-making—all employees must assume a share of responsibility for acts within their control that pose a risk of injury to themselves or fellow workers.
- All levels of the organization must be proactive in implementing safety processes that promote a safe and healthy work environment.
- Consequently, we are committed to providing a safe work environment; providing our employees with proper training and equipment; and implementing safety and health rules, policies and programs that foster safety excellence.

Our safety program includes a focus on the following:

- *Hiring the Right Workers.* Our hiring program includes significant pre-employment screening and reference checks.
- *Safety Incentives.* We have a compensation system that encourages and rewards excellent safety performance.
- *Communication.* We conduct regular safety meetings with the frequent involvement of senior management to reinforce the “tone at the top.”
- *Drug and Alcohol Testing.* We require pre-employment drug screening as well as regular random drug testing that exceeds regulatory requirements.
- *Continuous Improvement Programs.* We track key safety performance metrics, including accident rates, violation types and frequencies. We have specific targets in these areas, and we measure performance against these targets. Specific action plans are implemented for targeted improvement in areas where performance falls below our expectations.
- *Training.* Our training program includes comprehensive new employee orientation and training, annual refresher training and task training components. These training modules are designed to reinforce our high safety expectations. Work rules and procedures are a key element of this training.
- *Accident Investigation.* We have a structured accident investigation procedure that identifies root causes of accidents as well as actions necessary to prevent reoccurrence. We focus on near misses and close calls as a means of attempting to prevent more serious accidents from occurring.
- *Safety Audits.* We conduct periodic safety audits that include workplace examinations, including observation of workers at work, as well as safety program reviews. Both internal and external resources are utilized to conduct these audits.
- *Employee Performance Improvement.* A key element of our safety program is the recognition that safe work practices are a requirement of employment. We identify employee performance which is below expectations and develop specific action plans for improvement.
- *Employee Involvement.* The key to excellent safety is employee involvement and engagement. We foster direct employee involvement in a number of ways including audit participation, accident investigations, as training resources and through solicitation of ideas in small group meetings and through anonymous workplace observation suggestion boxes.

- *Positive Reinforcement.* Establishing safety as a core belief is paramount to our safety performance. As a result, we look for opportunities to celebrate accomplishments and to build pride in our operational safety and performance.

Available Information

Our investor relations website is ir.ramacoresources.com and we encourage investors to use it as a way of easily finding information about us. We promptly make available on this website, free of charge, the reports that we file or furnish with the Securities and Exchange Commission (“SEC”), corporate governance information (including our Code of Conduct and Ethics) and press releases. Our filings with the SEC are also available to the public from commercial document retrieval services and at the SEC’s website at www.sec.gov.

Item 1A. Risk Factors

Our business involves certain risks and uncertainties. The following is a description of significant risks that might cause our future financial condition or results of operations to differ materially from those expected. In addition to the risks and uncertainties described below, we may face other risks and uncertainties, some of which may be unknown to us and some of which we may deem immaterial. If one or more of these risks or uncertainties occur, our business, financial condition or results of operations may be materially and adversely affected. A summary of our risk factors is as follows:

Risks Related to Our Business

- Our properties have not yet been fully developed into producing coal mines and, if we experience any development delays or cost increases or are unable to complete the construction of our facilities, our business, financial condition and results of operations could be adversely affected.
- We have customer concentration, so the loss of, or significant reduction in, purchases by our largest coal customers could adversely affect our business, financial condition, results of operations and cash flows.
- Our customer base is highly dependent on the steel industry.
- Deterioration in the global economic conditions, a worldwide financial downturn or negative credit market conditions could have a material adverse effect on our business, financial condition, results of operations, cash flows and ability to pay dividends.
- Our operations may be disrupted, and our financial results may be adversely affected, by global outbreaks of contagious diseases, including COVID-19.
- We do not enter into long-term sales contracts for our coal and as a result we are exposed to fluctuations in market pricing.
- We face uncertainties in estimating our economically recoverable coal reserves, and inaccuracies in our estimates could result in lower-than-expected revenues, higher than expected costs and decreased profitability.
- A substantial or extended decline in the prices we receive for our coal could adversely affect our business, results of operations, financial condition, cash flows and ability to pay dividends to our stockholders.
- Changes in the global economic environment, inflation, rising interest rates, recessions or prolonged periods of slow economic growth, and global instability and actual and threatened geopolitical conflict, could have an adverse effect on our industry and business, as well as those of our customers and suppliers.
- Increased competition or a loss of our competitive position could adversely affect sales of, or prices for, our coal, which could impair our profitability.
- The availability and reliability of transportation facilities and fluctuations in transportation costs could affect the demand for our coal or impair our ability to supply coal to prospective customers.

- Any significant downtime of our major pieces of mining equipment, including any preparation plants, could impair our ability to supply coal to prospective customers and materially and adversely affect our results of operations.
- Our ability to collect payments from customers could be impaired if their creditworthiness declines or if they fail to honor their contracts with us.
- If we are unable to obtain needed capital or financing on satisfactory terms, we may have to curtail our operations and delay our construction and growth plans, which may materially adversely affect our business, financial condition, results of operations, cash flows and ability to pay dividends to our stockholders.
- Our operations could be adversely affected if we are unable to obtain required financial assurance, or if the costs of financial assurance increase materially.
- Defects in title or loss of any leasehold interests in our properties could limit our ability to conduct mining operations on these properties or result in significant unanticipated costs.
- Substantially all of our mining properties are leased from our affiliates and conflicts of interest may arise in the future as a result.
- We may face restricted access to international markets in the future.
- Our lessees could satisfy obligations to their customers with minerals from properties other than ours, depriving us of the ability to receive amounts in excess of minimum royalty payments.
- Technology development involves significant time and expense and can be uncertain.

Risks Related to Environmental, Health, Safety and Other Regulations

- The current U.S. administration and Congress could enact legislative and regulatory measures that could adversely affect our mining operations or cost structure or our customers' ability to use coal, which could have a material adverse effect on our financial condition and results of operations.
- Current and future government laws, regulations and other legal requirements relating to protection of the environment and natural resources may increase our costs of doing business and may restrict our coal operations.
- Our operations may impact the environment or cause exposure to hazardous substances, and our properties may have environmental contamination, which could expose us to significant costs and liabilities.
- We must obtain, maintain, and renew governmental permits and approvals for mining operations, which can be a costly and time-consuming process and result in restrictions on our operations.
- We and our significant stockholders are subject to the Applicant Violator System.
- Our mines are subject to stringent federal and state safety regulations that increase our cost of doing business at active operations and may place restrictions on our methods of operation. In addition, government inspectors in certain circumstances may have the ability to order our operations to be shut down based on safety considerations.
- We have reclamation, mine closing, and related environmental obligations under the SMCRA. If the assumptions underlying our accruals are inaccurate, we could be required to expend greater amounts than anticipated.

Risks Related to Our Company

- Our ability to pay dividends may be limited by the amount of cash we generate from operations following the payment of fees and expenses, by restrictions of any future debt instruments and by additional factors unrelated to our profitability.
- Your percentage of ownership in us may be diluted in the future.
- Certain of our directors have significant duties with, and spend significant time serving, entities that may compete with us in seeking acquisitions and business opportunities and, accordingly, may have conflicts of interest in allocating time or pursuing business opportunities.

Risks Related to Our Class B Common Stock Structure

- Holders of Class B common stock are common stockholders of the Company and, therefore, are subject to risks associated with an investment in the Company as a whole, even if the holder does not own shares of Class A common stock.
- Our Board's ability to reattribute businesses, assets, and expenses between the Class A common stock and Class B common stock may make it difficult to assess the future prospects of a class of common stock based on past performance.
- Dividends on our Class B common stock are discretionary and may fluctuate materially quarter to quarter. We cannot guarantee that we will be able to pay dividends in the future or what the actual dividends will be for any future periods.
- The market value of the Class B common stock could be adversely affected by events involving the other assets and businesses of the Company.
- Our new tracking stock capital structure could create conflicts of interest, and our Board may make decisions that could adversely affect only the holders of one class of our common stock.

Risks Related to Our Business

Our properties have not yet been fully developed into producing coal mines and, if we experience any development delays or cost increases or are unable to complete the construction of our facilities, our business, financial condition and results of operations could be adversely affected.

We have not completed development plans for all of our coal properties, and do not expect to have full annual production from all of our properties until market conditions permit us to resume and complete these development plans. We expect to incur significant capital expenditures until we have completed the development of our properties. In addition, the development of our properties involves numerous regulatory, environmental, political and legal uncertainties that are beyond our control and that may cause delays in, or increase the costs associated with, their completion. Accordingly, we may not be able to complete the development of the properties on schedule, at the budgeted cost or at all, and any delays beyond the expected development periods or increased costs above those expected to be incurred could have a material adverse effect on our business, financial condition, results of operations, cash flows and ability to pay dividends to our stockholders.

If we are unable to complete or are substantially delayed in completing the development of any of our properties, our business, financial condition, results of operations cash flows and ability to pay dividends to our stockholders could be adversely affected.

We have customer concentration, so the loss of, or significant reduction in, purchases by our largest coal customers could adversely affect our business, financial condition, results of operations and cash flows.

We are exposed to risks associated with an increasingly concentrated customer base both domestically and globally.

There are inherent risks whenever a significant percentage of total revenues are concentrated with a limited number of customers. Revenues from our largest customers may fluctuate from time to time based on numerous factors, including market conditions, which may be outside of our control. If any of our largest customers experience declining revenues due to market, economic or competitive conditions, we could be pressured to reduce the prices that we charge for our coal, which could have an adverse effect on our margins, profitability, cash flows and financial position. If any customers were to significantly reduce their purchases of coal from us, including by failing to buy and pay for coal they committed to purchase in sales contracts, our business, financial condition, results of operations, cash flows and ability to pay dividends to our stockholders could be adversely affected.

See Item 8 of Part II, "Financial Statements and Supplementary Data—Note 2—Summary of Significant Accounting Policies—Concentrations" for additional information.

Our customer base is highly dependent on the steel industry.

Substantially all of the metallurgical coal that we produce is sold to steel producers. Therefore, demand for our metallurgical coal is highly correlated to the steel industry. The steel industry's demand for metallurgical coal is affected by a number of factors including the cyclical nature of that industry's business, technological developments in the steel-making process and the availability of substitutes for steel such as aluminum, composites and plastics. A significant reduction in the demand for steel products would reduce the demand for metallurgical coal, which would have a material adverse effect on our business, financial condition, cash flows and results of operations. Similarly, if less expensive ingredients could be used in substitution for metallurgical coal in the integrated steel mill process, the demand for metallurgical coal would materially decrease, which would also materially adversely affect demand for our metallurgical coal. Our export customers, excluding Canada, include foreign steel producers who may be affected by the tariffs to the extent their production is imported into the U.S. Retaliatory threats by foreign nations to these tariffs may limit international trade and adversely impact global economic conditions.

Deterioration in the global economic conditions in any of the industries in which prospective customers operate, a worldwide financial downturn or negative credit market conditions could have a material adverse effect on our business, financial condition, results of operations, cash flows and ability to pay dividends to our stockholders.

Economic conditions in the industries in which most of our prospective customers operate, such as steelmaking and electric power generation, substantially deteriorated in recent years and reduced the demand for coal. A deterioration of economic conditions in our prospective customers' industries could cause a decline in demand for and production of metallurgical coal. Renewed or continued weakness in the economic conditions of any of the industries served by prospective customers could have a material adverse effect on our business, financial condition, results of operations, cash flows and ability to pay dividends to our stockholders.

Our operations may be disrupted, and our financial results may be adversely affected, by global outbreaks of contagious diseases, including COVID-19.

Global outbreaks of contagious diseases, including the December 2019 outbreak of a strain of coronavirus ("COVID-19"), have the potential to significantly and adversely impact our operations and business. On March 11, 2020, the World Health Organization recognized COVID-19 as a global pandemic. Pandemics or disease outbreaks such as the COVID-19 outbreak may have a variety of adverse effects on our business, including by depressing commodity prices and the market value of our securities and limiting the ability of our management to meet with potential financing sources. Like other coal companies, our business was adversely affected by the COVID-19 pandemic and measures that were taken to mitigate its impact. The pandemic resulted in widespread adverse impacts on our employees, customers, suppliers and other parties with whom we have business relations. The spread of COVID-19 had a negative impact on the financial markets, which may impact our ability to obtain additional financing. A prolonged downturn in the financial markets could have an adverse effect on our business, results of operations and ability to raise capital.

We cannot predict the full impact that future global outbreaks of contagious diseases, including COVID-19, will have on our business, cash flows, liquidity, financial condition and results of operations at this time, due to numerous uncertainties. The ultimate impacts will depend on future developments, including, among others, the consequences of governmental and other measures designed to slow the spread of such diseases, the development of effective treatments, the duration of the outbreaks, actions taken by governmental authorities, customers, suppliers and other third parties, workforce availability, and the timing and extent to which normal economic and operating conditions resume.

We do not enter into long-term sales contracts for our coal and as a result we are exposed to fluctuations in market pricing.

Sales commitments in the metallurgical coal market are typically not long-term in nature and are generally no longer than one year in duration. Most metallurgical coal transactions in the U.S. are done on a calendar year basis, where both prices and volumes are fixed in the third and fourth quarter for the following calendar year. Globally the market is evolving to shorter term pricing. Some annual contracts have shifted to quarterly contracts and most volumes

are being sold on an indexed basis, where prices are determined by averaging the leading spot indexes reported in the market and adjusting for quality. As a result, we are subject to fluctuations in market pricing. We are not protected from oversupply or market conditions where we cannot sell our coal at economic prices. Metallurgical coal has been an extremely volatile commodity over the past ten years and prices are likely to be volatile in the future. There can be no assurances we will be able to mitigate such conditions as they arise. Any sustained failure to be able to market our coal during such periods would have a material adverse effect on our business, financial condition, results of operations, cash flows and ability to pay dividends to our stockholders.

The failure to access coal preparation facilities may have a material adverse effect on our ability to produce coal for our prospective customers and to meet quality specifications.

The costs of establishing the infrastructure necessary to enable us to continue to ramp up our mining operations will be significant. We have constructed preparation and loading facilities at our Elk Creek Complex and have recently undertaken expansion projects to increase the rates of processing and preparation. Our Berwind Complex will remain under development until we reach our full targeted annual coal production. Some of the Berwind coal will continue to be washed at our active Knox Creek plant until our Berwind plant is fully up and running. We also endeavor to purchase, relocate, and reassemble preparation plant assets at our Maben complex for future use. Our failure to provide the necessary preparation, processing and loading facilities for our projects would have a material adverse effect on our operations.

The risks associated with the construction and operation of mines, processing plants and related infrastructure include:

- the potential lack of availability or cost of skilled and unskilled labor, equipment and principal supplies needed for construction of facilities;
- the need to obtain necessary environmental and other governmental approvals and permits and the timing of the receipt of those approvals and permits;
- industrial accidents;
- geologic mine failures, surface facility construction failures or mining, coal processing or transport equipment failures;
- structural failure of an impoundment or refuse area;
- natural phenomena such as inclement weather conditions, floods, droughts, rockslides and seismic activity;
- unusual or unexpected geological and coal quality conditions;
- potential opposition from non-governmental organizations, environmental groups or other activists, which may delay or prevent development activities; and
- restrictions or regulations imposed by governmental or regulatory authorities.

The costs, timing and complexities of developing our projects may be greater than anticipated. Cost estimates may increase significantly as more detailed engineering work is completed on a project. It is common in mining operations to experience unexpected costs, problems and delays during construction, development and mine start-up.

Product alternatives or other technologies may reduce demand for our products.

Substantially all of our coal production is comprised of metallurgical coal, which commands a significant price premium over the majority of other forms of coal because of its use in blast furnaces for steel production. Metallurgical coal has specific physical and chemical properties, which are necessary for efficient blast furnace operation. Steel producers are continually investigating alternative steel production technologies with a view to reducing production costs. The steel industry has increased utilization of electric arc furnaces or pulverized coal injection processes, which reduce or eliminate the use of furnace coke, an intermediate product produced from metallurgical coal and, in turn, generally decreases the demand for metallurgical coal. Many alternative technologies are designed to use lower quality coals or other sources of carbon instead of higher cost high-quality metallurgical coal. While conventional blast furnace technology has been the most economic large-scale steel production technology for a number of years, and emergent technologies typically take many years to commercialize, there can be no assurance that over the longer term

competitive technologies not reliant on metallurgical coal would not emerge, which could reduce the demand and price premiums for metallurgical coal.

Moreover, we may produce and market other coal products, such as thermal coal, which are also subject to alternative competition. Alternative technologies are continually being investigated and developed in order to reduce production costs or minimize environmental or social impact. In particular, alternatives with lower carbon footprints than our products are currently being researched and developed, as our customers are subject to increasing market and/or regulatory pressure to reduce their impacts on climate change. Further, the development and use of emerging technologies in the generation, transmission, storage and consumption of energy, including renewable energy, battery storage, and energy efficiency technologies, may increase the availability of alternative energy sources or lower demand for coal, resulting in lower prices and revenues. If competitive technologies emerge that use other materials in place of or otherwise eliminate the need for our products, demand and price for our products might fall.

We face uncertainties in estimating our economically recoverable coal reserves, and inaccuracies in our estimates could result in lower-than-expected revenues, higher than expected costs and decreased profitability.

Coal is economically recoverable when the price at which coal can be sold exceeds the costs and expenses of mining and selling the coal. Any forecasts of our future performance are based on, among other things, estimates of our recoverable coal reserves. We base our reserve information on geologic data, coal ownership information and current and proposed mine plans. There are numerous uncertainties inherent in estimating quantities and qualities of coal and costs to mine recoverable reserves, including many factors beyond our control. As a result, estimates of economically recoverable coal reserves are by their nature uncertain. Some of the factors and assumptions that can impact economically recoverable coal reserve estimates include:

- geologic and mining conditions;
- historical production from the area compared with production from other producing areas;
- the assumed effects of environmental and other regulations and taxes by governmental agencies;
- our ability to obtain, maintain and renew all required permits;
- future improvements in mining technology;
- assumptions related to future prices; and
- future operating costs, including the cost of materials, and capital expenditures.

Each of the factors that impacts reserve estimation may vary considerably from the assumptions used in estimating the reserves. For these reasons, estimates of coal reserves may vary substantially. Actual production, revenues and expenditures with respect to our future coal reserves may vary from estimates, and these variances may be material. As a result, our estimates may not accurately reflect our actual future coal reserves.

Our inability to acquire additional coal reserves that are economically recoverable may have a material adverse effect on our future profitability.

Our profitability depends substantially on our ability to mine, in a cost-effective manner, coal reserves that possess the quality characteristics that prospective customers desire. Because our reserves will decline as we mine our coal, our future profitability depends upon our ability to acquire additional coal reserves that are economically recoverable to replace the reserves we will produce. If we fail to acquire or develop sufficient additional reserves over the long term to replace the reserves depleted by our production, our existing reserves could eventually be exhausted.

We are dependent on contractors for the successful completion of the development of our properties.

We regularly use contractors in the development of our mines. Timely and cost-effective completion of the development of our properties, including necessary facilities and infrastructure, in compliance with agreed specifications is central to our business strategy and is highly dependent on the performance of our contractors under the agreements with them.

Although some agreements may provide for liquidated damages, if the contractor fails to perform in the manner required with respect to certain of its obligations, the events that trigger a requirement to pay liquidated damages may delay or impair the operation of our properties, and any liquidated damages that we receive may not be sufficient to cover the damages that we suffer as a result of any such delay or impairment. Further, we may have disagreements with our contractors about different elements of the construction process, which could lead to the assertion of rights and remedies under their contracts and increase the costs associated with development of the properties or result in a contractor's unwillingness to perform further work. If any contractor is unable or unwilling to perform according to the negotiated terms and timetable of its respective agreement for any reason or terminates its agreement, we would be required to engage a substitute contractor. This would likely result in significant project delays and increased costs, which could have a material adverse effect on our business, financial condition, results of operations, cash flows and ability to pay dividends to our stockholders.

Prices for coal are volatile and can fluctuate widely based upon a number of factors beyond our control, including oversupply relative to the demand available for our coal and weather. A substantial or extended decline in the prices we receive for our coal could adversely affect our business, results of operations, financial condition, cash flows and ability to pay dividends to our stockholders.

Our financial results are significantly affected by the prices we receive for our coal and depend, in part, on the margins that we earn on sales of our coal. Our margins will reflect the price we receive for our coal over our cost of producing and transporting our coal. Prices and quantities under U.S. domestic metallurgical coal sales contracts are generally based on expectations of the next year's coal prices at the time the contract is entered into, renewed, extended or re-opened. Pricing in the global seaborne market is moving towards shorter term pricing models, typically using indexes. The expectation of future prices for coal depends upon many factors beyond our control, including the following:

- the market price for coal;
- overall domestic and global economic conditions, including the supply of and demand for domestic and foreign coal, coke and steel;
- the consumption pattern of industrial consumers, electricity generators and residential users;
- weather conditions in our markets that affect the demand for thermal coal or that affect the ability to produce metallurgical coal;
- competition from other coal suppliers;
- technological advances affecting energy consumption;
- the costs, availability and capacity of transportation infrastructure;
- the impact of domestic and foreign governmental laws and regulations, including environmental and climate change regulations and regulations affecting the coal mining industry, and delays in the receipt of, failure to receive, failure to maintain or revocation of necessary governmental permits; and
- increased utilization by the steel industry of electric arc furnaces or pulverized coal injection processes, which reduce or eliminate the use of furnace coke, an intermediate product produced from metallurgical coal, and generally decrease the demand for metallurgical coal.

Metallurgical coal is an extremely volatile commodity. There are no assurances that supplies will remain low, that demand will not decrease or that overcapacity may resume, which could cause declines in the prices of and demand for coal, which could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Changes in the global economic environment, inflation, rising interest rates, recessions or prolonged periods of slow economic growth, and global instability and actual and threatened geopolitical conflict, could have an adverse effect on our industry and business, as well as those of our customers and suppliers.

Overall economic conditions in the U.S. and globally, including adverse factors such as inflation, rising interest rates, supply chain disruptions and the impacts of the war in Ukraine, significantly impact our business. Periods of economic downturn or continued uncertainty could result in difficulty increasing or maintaining our level of sales or

profitability and we may experience an adverse effect on our business, results of operations, financial condition and cash flows.

Our operations are subject to economic conditions, including credit and capital market conditions, inflation, prevailing interest rates, and political factors, which if changed could negatively affect our results of operations, cash flows and liquidity. Political factors include, but are not limited to, changes to tax laws and regulations resulting in increased income tax liability, increased regulation, such as carbon emissions limitations or trading mechanisms, limitations on exports of energy and raw materials, and trade remedies. Actions taken by the U.S. government could affect our results of operations, cash flows and liquidity.

The ongoing war in Ukraine has had a broad range of adverse impacts on global economic conditions, some of which have had and are likely to continue to have adverse impacts on our business, including increased raw material and energy costs, softer customer demand and lower steel prices.

Additionally, we are also exposed to risks associated with the business success and creditworthiness of our suppliers and customers. If our customers or suppliers are negatively impacted by a slowdown in economic markets, we may face the reduction, delay or cancellation of customer orders, delays or interruptions of the supply of raw materials, and increased risk of insolvency and other credit related issues of customers or suppliers, which could delay payments from customers, result in increased customer defaults and cause our suppliers to delay filling, or to be unable to fill, our needs at all or on a timely or cost-effective basis. The occurrence of any of these events may adversely affect our business, results of operations, financial condition and cash flows.

Increased competition or a loss of our competitive position could adversely affect sales of, or prices for, our coal, which could impair our profitability. In addition, foreign currency fluctuations could adversely affect the competitiveness of our coal abroad.

We compete with other producers primarily on the basis of coal quality, delivered costs to the customer and reliability of supply. We compete primarily with U.S. coal producers and with some Canadian coal producers for sales of metallurgical coal to domestic steel producers and, to a lesser extent, thermal coal to electric power generators. We also compete with both domestic and foreign coal producers for sales of metallurgical coal in international markets. Certain of these coal producers may have greater financial resources and larger reserve bases than we do. We sell coal to the seaborne metallurgical coal market, which is significantly affected by international demand and competition.

We cannot assure you that competition from other producers will not adversely affect us in the future. The coal industry has experienced significant consolidation in recent years, including consolidation among some of our major competitors. We cannot assure you that the result of current or further consolidation in the coal industry, or the reorganization through bankruptcy of competitors with large legacy liabilities, will not adversely affect us. A number of our competitors have idled production over the last several years in light of lower metallurgical coal prices. A stabilization or increase in coal prices could encourage existing producers to expand capacity or could encourage new producers to enter the market.

In addition, we face competition from foreign producers that sell their coal in the export market. Potential changes to international trade agreements, trade concessions, foreign currency fluctuations or other political and economic arrangements may benefit coal producers operating in countries other than the United States. Additionally, North American steel producers face competition from foreign steel producers, which could adversely impact the financial condition and business of our prospective customers. We cannot assure you that we will be able to compete on the basis of price or other factors with companies that in the future may benefit from favorable foreign trade policies or other arrangements. Coal is sold internationally in U.S. dollars and, as a result, general economic conditions in foreign markets and changes in foreign currency exchange rates may provide our foreign competitors with a competitive advantage. If our competitors' currencies decline against the U.S. dollar or against our prospective foreign customers' local currencies, those competitors may be able to offer lower prices for coal to prospective customers. Furthermore, if the currencies of our prospective overseas customers were to significantly decline in value in comparison to the U.S. dollar, those prospective customers may seek decreased prices for the coal we sell to them. Consequently, currency

fluctuations could adversely affect the competitiveness of our coal in international markets, which could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Our business involves many hazards and operating risks, some of which may not be fully covered by insurance. The occurrence of a significant accident or other event that is not fully insured could adversely affect our business, results of operations, financial condition and cash flows, and ability to pay dividends to our stockholders.

Our mining operations, including our preparation and transportation infrastructure, are subject to many hazards and operating risks. Underground mining and related processing activities present inherent risks of injury to persons and damage to property and equipment. Our mines are subject to a number of operating risks that could disrupt operations, decrease production and increase the cost of mining for varying lengths of time, thereby adversely affecting our operating results. In addition, if coal production declines, we may not be able to produce sufficient amounts of coal to deliver under future sales contracts. Our inability to satisfy contractual obligations could result in prospective customers initiating claims against us. The operating risks that may have a significant impact on our future coal operations include:

- variations in thickness of seams of coal;
- adverse geologic conditions, including amounts of rock and other natural materials intruding into the coal seam, that could affect the stability of the roof and the side walls of the mine;
- environmental hazards;
- mining and processing equipment failures, structural failures and unexpected maintenance problems;
- fires or explosions, including as a result of methane, coal, coal dust or other explosive materials, or other accidents;
- unexpected mine accidents, including rock-falls and explosions caused by the ignition of metallurgical coal dust, natural gas or other explosive sources at our mine sites or fires caused by the spontaneous combustion of metallurgical coal or similar mining accidents;
- inclement or hazardous weather conditions and natural disasters or other force majeure events;
- seismic activities, ground failures, rock bursts or structural cave-ins or slides;
- delays in moving our mining equipment;
- railroad delays or derailments;
- security breaches or terroristic acts; and
- other hazards or occurrences that could also result in personal injury and loss of life, pollution and suspension of operations.

Any of these risks could adversely affect our ability to conduct operations or result in substantial loss to us as a result of claims for:

- personal injury or loss of life;
- damage to and destruction of property, natural resources and equipment, including our coal properties and our coal production or transportation facilities;
- pollution, contamination and other environmental damage to our properties or the properties of others;
- potential legal liability and monetary losses;
- regulatory investigations, actions and penalties;
- suspension of our operations; and
- repair and remediation costs.

Although we maintain insurance for a number of risks and hazards, we may not be insured or fully insured, and we may not be able to recover under our insurance policies, against the losses or liabilities that could arise from a significant accident in our future coal operations. We may elect not to obtain insurance for any or all of these risks if we believe that the cost of available insurance is excessive relative to the risks presented. In addition, pollution, contamination and environmental risks generally are not fully insurable. Moreover, a significant mine accident or regulatory infraction could potentially cause a mine shutdown. For example, on July 10, 2022, we discovered that a material methane ignition at our Berwind mining complex had occurred. See “*Management’s Discussion and Analysis of Financial Condition and Results of Operations—Methane Ignition at Berwind Mine*” for additional information. The

occurrence of an event that is not fully covered by insurance could have a material adverse effect on our business, financial condition, results of operations, cash flows and ability to pay dividends to our stockholders.

In addition, if any of the foregoing changes, conditions or events occurs and is not determined to be a force majeure event, any resulting failure on our part to deliver coal to the purchaser under contract could result in economic penalties, suspension or cancellation of shipments or ultimately termination of the agreement, any of which could have a material adverse effect on our business, financial condition, results of operations, cash flows and ability to pay dividends to our stockholders.

Our operations are located in a single geographic region, making us vulnerable to risks associated with operating in a single geographic area, including adverse impacts of weaker conditions associated with climate change.

Currently, all of our active operations are conducted in a single geographic region in the eastern United States in the Appalachian basin. The geographic concentration of our operations may disproportionately expose us to disruptions in our operations if the region experiences severe weather, transportation capacity constraints, constraints on the availability of required equipment, facilities, personnel or services, significant governmental regulation, natural disasters, pandemics (such as COVID-19) or interruption of transportation or other events that impact the region in which we operate or its surrounding areas. If any of these factors were to impact the region in which we operate more than other coal producing regions, our business, financial condition, results of operations and cash flows will be adversely affected relative to other mining companies that have a more geographically diversified asset portfolio.

In addition, weather conditions associated with climate change, such as increased frequency and severity of storms, droughts and floods and other severe weather events, may impact our operations, personnel, physical assets, supply chain, distribution chain, access to raw materials such as water and the cost or availability of insurance. If any such effects were to occur in areas where we or our customers operate, they could have an adverse effect on our business, financial condition and cash flows. Our ability to mitigate the adverse physical impacts of climate change depends in part upon our disaster preparedness and response and business continuity planning.

The availability and reliability of transportation facilities and fluctuations in transportation costs could affect the demand for our coal or impair our ability to supply coal to prospective customers.

Transportation logistics play an important role in allowing us to supply coal to prospective customers. Any significant delays, interruptions, or other limitations on the ability to transport our coal, including those similar to the rail-related constraints we experienced in 2022, could negatively affect our operations. Delays and interruptions of rail services because of accidents, failure to complete construction of rail infrastructure, infrastructure damage, lack of rail or port capacity, weather-related problems, governmental regulation, terrorism, strikes, lockouts, third-party actions or other events could impair our ability to supply coal to customers and adversely affect our profitability. In addition, transportation costs represent a significant portion of the delivered cost of coal and, as a result, the cost of delivery is a critical factor in a customer's purchasing decision. Increases in transportation costs, including increases resulting from emission control requirements and fluctuations in the price of locomotive diesel fuel and demurrage, could make our coal less competitive, which could have a material adverse effect on our business, financial condition, results of operations, cash flows and ability to pay dividends to our stockholders.

Any significant downtime of our major pieces of mining equipment, including any preparation plants, could impair our ability to supply coal to prospective customers and materially and adversely affect our results of operations.

We depend on several major pieces of mining equipment to produce and transport our coal, including, but not limited to, underground continuous mining units and coal conveying systems, surface mining equipment such as highwall miners, front-end loaders and coal overburden haul trucks, preparation plants and related facilities, conveyors and transloading facilities. If any of these pieces of equipment or facilities suffered major damage or were destroyed by fire, abnormal wear, flooding, incorrect operation or otherwise, we may be unable to replace or repair them in a timely manner or at a reasonable cost, which would impact our ability to produce and transport coal and materially and adversely affect our business, results of operations, financial condition and cash flows. Moreover, the MSHA and other regulatory agencies sometimes make changes with regards to requirements for pieces of equipment. Such changes could

cause delays if manufacturers and suppliers are unable to make the required changes in compliance with mandated deadlines.

If either our preparation plants, or train loadout facilities, or those of a third party processing or loading our coal, suffer extended downtime, including from major damage, or is destroyed, our ability to process and deliver coal to prospective customers would be materially impacted, which would materially adversely affect our business, results of operations, financial condition, cash flows and ability to pay dividends to our stockholders. For example, in late-2018, we experienced a partial structural failure at one of the raw coal storage silos that feeds our Elk Creek plant in West Virginia, which idled our Elk Creek preparation plant for approximately one month. We also experienced a methane ignition at the Berwind No. 1 mine in the third quarter of 2022, which required the mine to be idled until production was restarted in the first quarter of 2023.

If customers do not enter into, extend or honor contracts with us, our profitability could be adversely affected.

Coal mined from our operations is subject to testing by prospective customers for its ability to meet various specifications and to work satisfactorily in their ovens and other facilities prior to entering into contracts for purchase (which are typically short-term orders having terms of one year or less). If we are unable to successfully test our coals or enter into new contracts for the sale of our coal, our ability to achieve profitability would be materially adversely affected. Once we enter into contracts, if a substantial portion of our sales contracts are modified or terminated and we are unable to replace the contracts (or if new contracts are priced at lower levels), our results of operations would be adversely affected, perhaps materially. In addition, if customers refuse to accept shipments of our coal for which they have a contractual obligation, our revenues could be substantially affected and we may have to reduce production at our mines until the customer's contractual obligations are honored. This, in turn, could have a material adverse effect on the payments we receive which could affect our business, financial condition, cash flows and ability to pay dividends to our stockholders.

Certain provisions in typical long-term sales contracts provide limited protection during adverse economic conditions, which may eventually result in economic penalties to us or permit the customer to terminate the contract. Furthermore, our ability to collect payments from prospective customers could be impaired if their creditworthiness declines or if they fail to honor their contracts with us.

We do not expect to enter into significant long-term sales contracts, but if we do, price adjustment, "price reopener" and other similar provisions typical in long-term sales contracts may reduce protection from short-term coal price volatility traditionally provided by such contracts. Price reopener provisions may be included in our future sales contracts. These price reopener provisions may automatically set a new price based on prevailing market price or, in some instances, require the parties to agree on a new price, sometimes within a specified range of prices. Any adjustment or renegotiations leading to a significantly lower contract price could adversely affect our profitability. Some annual metallurgical coal contracts have shifted to quarterly contracts and many include prices determined by averaging the leading spot indexes reported in the market, exposing us further to risks related to pricing volatility.

Our ability to receive payment for coal sold and delivered depends on the continued solvency and creditworthiness of prospective customers. The number of domestic steel producers is small, and they compete globally for steel production. If their business or creditworthiness suffers, we may bear an increased risk with respect to payment default. Competition with other coal suppliers could force us to extend credit to customers and on terms that could increase the risk we bear with respect to payment default. We could also enter into agreements to supply coal to energy trading and brokering customers under which a customer sells coal to end-users. If the creditworthiness of any prospective energy trading and brokering customer declines, we may not be able to collect payment for all coal sold and delivered to or on behalf of this customer.

In addition, if customers refuse to accept shipments of our coal that they have a contractual obligation to purchase, our revenues will decrease, and we may have to reduce production at our mines until prospective customers' contractual obligations are honored. Our inability to collect payment from counterparties to our sales contracts may materially adversely affect our business, financial condition, results of operations, cash flows and ability to pay dividends to our stockholders.

We may be unsuccessful in integrating the operations of any future acquisitions, including acquisitions involving new lines of business, with our existing operations, and in realizing all or any part of the anticipated benefits of any such acquisitions.

From time to time, we may evaluate and acquire assets and businesses that we believe complement our existing assets and business, such as the mineral lease with the McDonald Land Company for coal reserves adjacent to our Elk Creek mine complex near Logan, West Virginia. The assets and businesses we acquire may be dissimilar from our initial lines of business. Acquisitions may require substantial capital or the incurrence of substantial indebtedness. Our capitalization and results of operations may change significantly as a result of future acquisitions. We may also add new lines of business to our existing operations.

Further, unexpected costs and challenges may arise whenever businesses with different operations or management are combined, and we may experience unanticipated delays in realizing the benefits of an acquisition. Entry into certain lines of business may subject us to new laws and regulations with which we are not familiar and may lead to increased litigation and regulatory risk. Also, following an acquisition, we may discover previously unknown liabilities associated with the acquired business or assets for which we have no recourse under applicable indemnification provisions. If an acquired business or new line of business generates insufficient revenue or if we are unable to efficiently manage our expanded operations, our results of operations may be materially adversely affected.

To maintain and grow our business, we will be required to make substantial capital expenditures. If we are unable to obtain needed capital or financing on satisfactory terms, we may have to curtail our operations and delay our construction and growth plans, which may materially adversely affect our business, results of operations, financial condition and cash flows, and ability to pay dividends to our stockholders.

In order to maintain and grow our business, we will need to make substantial capital expenditures associated with our mines and the construction of coal preparation facilities which have not yet been constructed. Constructing, maintaining, repairing and expanding mines and infrastructure, including coal preparation and loading facilities, is capital intensive. Specifically, the exploration, permitting and development of coal reserves, and the maintenance of machinery, equipment and facilities, and compliance with applicable laws and regulations require substantial capital expenditures. While we funded a significant amount of the capital expenditures needed to build out our mining and preparation infrastructure at our Elk Creek property with cash on hand, we must continue to invest capital to maintain or to increase our production and to develop any future acquired properties. Decisions to increase our production levels could also affect our capital needs. We cannot assure you that we will be able to maintain our production levels or generate sufficient cash flow, or that we will have access to sufficient financing to continue our production, exploration, permitting and development activities, and we may be required to defer all or a portion of our capital expenditures.

If we do not make sufficient or effective capital expenditures, we will be unable to develop and grow our business. To fund our projected capital expenditures, we will be required to use cash from our operations, incur debt or issue additional common stock or other equity securities. Using cash from our operations will reduce cash available for maintaining or increasing our operating activities and paying dividends to our stockholders. Our ability to obtain bank financing or our ability to access the capital markets for future equity or debt offerings may be limited by our financial condition at the time of any such financing or offering and the covenants in our future debt agreements, as well as by general economic conditions, contingencies and uncertainties that are beyond our control, such as the COVID-19 pandemic.

In addition, incurring debt may significantly increase our interest expense and financial leverage, and issuing additional equity securities may result in significant stockholder dilution.

We may not be able to obtain equipment, parts and supplies in a timely manner, in sufficient quantities or at reasonable costs to support our coal mining and transportation operations.

Coal mining consumes large quantities of commodities including steel, copper, rubber products and liquid fuels and requires the use of capital equipment. Some commodities, such as steel, are needed to comply with roof control

plans required by regulation. The prices we pay for commodities and capital equipment are strongly impacted by the global market. A rapid or significant increase in the costs of commodities or capital equipment we use in our operations could impact our mining operations costs because we may have a limited ability to negotiate lower prices and, in some cases, may not have a ready substitute.

We use equipment in our coal mining and transportation operations such as continuous mining units, conveyors, shuttle cars, rail cars, locomotives, and roof bolters. We procure this equipment from a concentrated group of suppliers, and obtaining this equipment often involves long lead times. Occasionally, demand for such equipment by mining companies can be high and some types of equipment may be in short supply. Delays in receiving or shortages of this equipment, as well as the raw materials used in the manufacturing of supplies and mining equipment, which, in some cases, do not have ready substitutes, or the cancellation of any future supply contracts under which we obtain equipment and other consumables, could limit our ability to obtain these supplies or equipment. In addition, if any of our suppliers experiences an adverse event, or decides to no longer do business with us, we may be unable to obtain sufficient equipment and raw materials in a timely manner or at a reasonable price to allow us to meet our production goals and our revenues may be adversely impacted. We use considerable quantities of steel in the mining process. If the price of steel or other materials increases substantially or if the value of the U.S. dollar declines relative to foreign currencies with respect to certain imported supplies or other products, our operating expenses could increase. Any of the foregoing events could materially and adversely impact our business, financial condition, results of operations, cash flows and ability to pay dividends to our stockholders.

We experienced rail-related constraints in 2022, which led to higher coal inventory levels at December 31, 2022.

We are a holding company, and we depend on the ability of our subsidiaries to distribute funds to us in order to satisfy our financial obligations and to make dividend payments.

We are a holding company, and our subsidiaries conduct all of our operations and own all of our operating assets. We have no significant assets other than the equity interests in our subsidiaries. As a result, our ability to pay our obligations and to make dividend payments, depends entirely on our subsidiaries and their ability to distribute funds to us. The ability of a subsidiary to make these distributions could be affected by a claim or other action by a third-party, including a creditor, or by the law of their respective jurisdictions of formation which regulates the payment of dividends. If we are unable to obtain funds from our subsidiaries, we may not be able to declare or pay dividends.

Our operations could be adversely affected if we are unable to obtain required financial assurance, or if the costs of financial assurance increase materially.

Federal and state laws require financial assurance to secure our permit obligations including to reclaim lands used for mining, to pay federal and state workers' compensation and black lung benefits, and to satisfy other miscellaneous obligations. The changes in the market for coal used to generate electricity in recent years have led to bankruptcies involving prominent coal producers. Several of these companies relied on self-bonding to guarantee their responsibilities under the SMCRA permits including for reclamation. In response to these bankruptcies, the OSMRE issued a Policy Advisory in August 2016 to state agencies that was intended to discourage authorized states from approving self-bonding arrangements. Although the Policy Advisory was rescinded in October 2017, certain states, including Virginia, had previously announced that it would no longer accept self-bonding to secure reclamation obligations under the state mining laws. Individually and collectively, these and future revised financial assurance requirements may lead to increased demand for other forms of financial assurance, which may strain capacity for those instruments and increase our costs of obtaining and maintaining the amounts of financial assurance needed for our operations, which may delay the timing for and increase the costs of obtaining this financial assurance.

We use surety bonds, trusts and letters of credit to provide financial assurance for certain transactions and business activities. If, in the future, we are unable to secure surety bonds for these obligations and are forced to secure letters of credit indefinitely or obtain some other form of financial assurance at too high of a cost, we may not be able to obtain permits and production on our properties could be adversely affected. This could have a material adverse effect on our business, financial condition, cash flows and ability to pay dividends to our stockholders.

Our mines are located in areas containing oil and natural gas operations, which may require us to coordinate our operations with those of oil and natural gas drillers.

Our coal reserves are in areas containing developed or undeveloped oil and natural gas deposits and reservoirs, including the Marcellus Shale in Pennsylvania, and our Virginia reserves are currently the subject of substantial oil and natural gas exploration and production activities, including by horizontal drilling. If we have received a permit for our mining activities, then, while we will have to coordinate our mining with such oil and natural gas drillers, our mining activities are expected to have priority over any oil and natural gas drillers with respect to the land covered by our permit. For reserves outside of our permits, we expect to engage in discussions with drilling companies on potential areas on which they can drill that may have a minimal effect on our mine plan. Depending on priority of interests, our operations may have to avoid existing oil and gas wells or expend sums to plug oil and gas wells.

If a well is in the path of our mining for coal on land that has not yet been permitted for our mining activities, we may not be able to mine through the well unless we purchase it. The cost of purchasing a producing horizontal or vertical well could be substantial. Horizontal wells with multiple laterals extending from the well pad may access larger oil and natural gas reserves than a vertical well, which would typically result in a higher cost to acquire. The cost associated with purchasing oil and natural gas wells that are in the path of our coal mining activities may make mining through those wells uneconomical, thereby effectively causing a loss of significant portions of our coal reserves, which could materially and adversely affect our business, financial condition, results of operations, cash flows and ability to pay dividends to our stockholders.

Defects in title or loss of any leasehold interests in our properties could limit our ability to conduct mining operations on these properties or result in significant unanticipated costs.

We conduct a significant part of our mining operations on properties that we lease. A title defect or the loss of any lease upon expiration of its term, upon a default or otherwise, could adversely affect our ability to mine the associated reserves and/or process the coal we mine. Title to most of our owned or leased properties and mineral rights is not usually verified until we make a commitment to develop a property, which may not occur until after we have obtained necessary permits and completed exploration of the property. In some cases, we rely on title information or representations and warranties provided by our lessors or grantors. Our right to mine some of our reserves may be adversely affected if defects in title or boundaries exist or if a lease expires. Any challenge to our title or leasehold interests could delay the exploration and development of the property and could ultimately result in the loss of some or all of our interest in the property and, accordingly, require us to reduce our estimated coal reserves. Mining operations from time to time may rely on an expired lease that we are unable to renew. If we were to be in default with respect to leases for properties on which we have mining operations, we may have to close down or significantly alter the sequence of such mining operations, which may adversely affect our future coal production and future revenues. If we mine on property that we do not own or lease, we could incur liability for such mining.

In any such case, the investigation and resolution of title issues would divert management's time from our business and our results of operations could be adversely affected. Additionally, if we lose any leasehold interests relating to any preparation plants, we may need to find an alternative location to process our coal and load it for delivery to customers, which could result in significant unanticipated costs.

In order to obtain leases or mining contracts to conduct our mining operations on property where these defects exist, we may in the future have to incur unanticipated costs. In addition, we may not be able to successfully negotiate new leases or mining contracts for properties containing additional reserves or maintain our leasehold interests in properties where we have not commenced mining operations during the term of the lease. Some leases have minimum production requirements. Failure to meet those requirements could result in losses of prepaid royalties and, in some rare cases, could result in a loss of the lease itself.

While none of our employees who conduct mining operations are currently members of unions, our business could be adversely affected by union activities.

We are not subject to any collective bargaining or union agreement with respect to properties we currently control. However, it is possible that future employees, or those of our contract miners, who conduct mining operations may join or seek recognition to form a labor union or may be required to become labor agreement signatories. If some or all of the employees who conduct mining operations were to become unionized, it could adversely affect productivity, increase labor costs and increase the risk of work stoppages at our mines. If a work stoppage were to occur, it could interfere with operations and have a material adverse effect on our business, financial condition, results of operations, cash flows and our ability to pay dividends to our stockholders.

A shortage of skilled labor in the mining industry could pose a risk to achieving improved labor productivity, which could adversely affect our profitability.

Efficient coal mining using modern techniques and equipment requires skilled laborers, preferably with at least a year of experience and proficiency in multiple mining tasks. The demand for skilled employees sometimes causes a significant constriction of the labor supply resulting in higher labor costs. When met coal producers compete for skilled miners, recruiting challenges can occur and employee turnover rates can increase, which negatively affect operating efficiency and costs. In the event there is a shortage of experienced labor, it could have an adverse impact on our labor productivity and our ability to expand production in the event there is an increase in the demand for our coal.

We may face restricted access to international markets in the future.

Access to international markets may be subject to ongoing interruptions and trade barriers due to policies and tariffs of individual countries, and the actions of certain interest groups to restrict the import or export of certain commodities. There can be no assurance that our access to these markets will not be restricted in the future. An inability for U.S. metallurgical coal suppliers to access international markets would likely result in an oversupply of metallurgical coal in the domestic market, resulting in a decrease in prices, which could have a material adverse effect on our business, financial condition, cash flows and ability to pay dividends to our stockholders.

We and our significant stockholders are subject to the Applicant Violator System.

Under the SMCRA and its state law counterparts, all coal mining applications must include mandatory “ownership and control” information, which generally includes listing the names of our officers and directors, and our principal stockholders owning 10 percent or more of our voting shares, among others. Ownership and control reporting requirements are designed to allow regulatory review of any entities or persons deemed to have ownership or control of a coal mine, and bars the granting of a coal mining permit to any such entity or person (including any “owner and controller”) who has had a mining permit revoked or suspended, or a bond or similar security forfeited within the five-year period preceding a permit application or application for a permit revision. Regulatory agencies also block the issuance of permits to an applicant who, or whose owner and controller, has permit violations outstanding that have not been timely abated.

A federal database, known as the Applicant Violator System, is maintained for this purpose. Certain relationships are presumed to constitute ownership or control, including the following: being an officer or director of an entity; being the operator of the coal mining operation; having the ability to commit the financial or real property assets or working resources of the permittee or operator; based on the instruments of ownership or the voting securities of a corporate entity, owning of record 10% or more of the mining operator, among others. This presumption, in most cases, can be rebutted where the person or entity can demonstrate that it in fact does not or did not have authority directly or indirectly to determine the manner in which the relevant coal mining operation is conducted. An ownership and control notice must be filed by us each time an entity obtains a 10% or greater interest in us. If we have unabated violations of the SMCRA or its state law counterparts, have a coal mining permit suspended or revoked, or forfeit a reclamation bond, we and our “owners and controllers,” as discussed above, may be prohibited from obtaining new coal mining permits, or amendments to existing permits, until such violations of law are corrected. This is known as being “permit-blocked.” Additionally, Yorktown and Mr. Atkins are each currently deemed an “owner or controller” of a number of other mining

companies; as such, we could be permit-blocked based upon the violations of or permit-blocked status of an “owner or controller” of us. This could adversely affect production from our properties.

We may be subject to additional limitations on our ability to conduct mining operations due to federal jurisdiction.

We may conduct some underground mining activities on properties that are within the designated boundary of federally protected lands or national forests where the above-mentioned restrictions within the meaning of the SMCRA could apply. Federal court decisions could pose a potential restriction on underground mining within 100 feet of a public road as well as other restrictions. If these SMCRA restrictions ultimately apply to underground mining, considerable uncertainty would exist about the nature and extent of this restriction. While it could remain possible to obtain permits for underground mining operations in these areas even where this 100-foot restriction was applied, the time and expense of that permitting process would be likely to increase significantly, and the restrictions placed on the mining of those properties could adversely affect our costs.

Our lessees could satisfy obligations to their customers with minerals from properties other than ours, depriving us of the ability to receive amounts in excess of minimum royalty payments.

Mineral supply contracts generally do not require operators to satisfy their obligations to their customers with resources mined from specific locations. Several factors may influence a lessee’s decision to supply its customers with minerals mined from properties we do not own or lease, including the royalty rates under the lessee’s lease with us, mining conditions, mine operating costs, cost and availability of transportation, and customer specifications. In addition, lessees move on and off of our properties over the course of any given year in accordance with their mine plans. If a lessee satisfies its obligations to its customers with minerals from properties we do not own or lease, production on our properties will decrease, and we will receive lower royalty revenues.

A lessee may incorrectly report royalty revenues, which might not be identified by our lessee audit process or our mine inspection process or, if identified, might be identified in a subsequent period.

We depend on our lessees to correctly report production and royalty revenues on a monthly basis. Our regular lessee audits and mine inspections may not discover any irregularities in these reports or, if we do discover errors, we might not identify them in the reporting period in which they occurred. Any undiscovered reporting errors could result in a loss of royalty revenues and errors identified in subsequent periods could lead to accounting disputes as well as disputes with our lessees.

Because of the unique difficulties and uncertainties inherent in technology development, we face a risk of not being able to capitalize on our license or ownership of intellectual property.

Potential investors should be aware of the difficulties normally encountered by companies developing new technology and the high rate of failure of such enterprises. The likelihood of our successful ability to commercialize intellectual property we own or license must be considered in light of the problems, expenses, difficulties, complications and delays encountered in connection with the development of new technology with limited personnel and financial means. These potential problems include, but are not limited to, unanticipated technical problems that extend the time and cost of product development or unanticipated problems with the operation of the technology.

Technology development involves significant time and expense and can be uncertain.

The development of technology associated with our licensed or owned intellectual property will be costly, complex and time-consuming. Any investment into technology development and commercialization often involves a long wait until a return, if any, is achieved on such investment. We plan to make investments in research and development relating to our owned and licensed intellectual property and technology. Investments in new technology and processes are inherently speculative.

Successful technical development of technologies associated with intellectual property does not guarantee successful commercialization.

We may successfully complete the technical development of technologies associated with our owned or licensed intellectual property, but we may still fail to commercialize that technology at scale or at a cost attractive to the target industries. Our success will depend largely on our ability to prove the capabilities and cost-effectiveness of the developed technology. Upon demonstration, the technology may not have the capabilities they were designed to have or that we believed they would have, or they may be more expensive than anticipated. Furthermore, even if we do successfully demonstrate the technology's capabilities, potential customers may be more comfortable doing business with a larger, more established, more proven company than us. Moreover, competing technologies may prevent us from gaining wide market acceptance of the technology. Significant revenue from new technology investments may not be achieved for a number of years, if at all.

If we fail to protect our intellectual property rights, we could lose our ability to compete in the market.

Our intellectual property and proprietary rights are important to our ability to remain competitive and for the success of our products and our business. Our intellectual property rights may be challenged, invalidated or circumvented by third parties. We may not be able to prevent the unauthorized disclosure or use of our technical knowledge or other trade secrets by employees or competitors. Furthermore, our competitors may independently develop technologies and products that are substantially equivalent or superior to our technologies and/or products, which could result in decreased revenues. Moreover, the laws of foreign countries may not protect our intellectual property rights to the same extent as the laws of the United States. Litigation may be necessary to enforce our intellectual property rights which could result in substantial costs to us and substantial diversion of management attention. If we do not adequately protect our intellectual property, our competitors could use it to enhance their products. Our inability to adequately protect our intellectual property rights could adversely affect our business and financial condition, and the value of our brand and other intangible assets.

Other companies may claim that we infringe their intellectual property, which could materially increase our costs and harm our ability to generate future revenue and profit.

We do not believe that we infringe the proprietary rights of any third party, but claims of infringement are becoming increasingly common, and third parties may assert infringement claims against us. It may be difficult or impossible to identify, prior to receipt of notice from a third party, the trade secrets, patent position or other intellectual property rights of a third party, either in the United States or in foreign jurisdictions. Any such assertion may result in litigation or may require us to obtain a license for the intellectual property rights of third parties. If we are required to obtain licenses to use any third-party technology, we would have to pay royalties, which may significantly reduce any profit on our products. In addition, any such litigation could be expensive and disruptive to our ability to generate revenue or enter into new market opportunities. If any of our products were found to infringe other parties' proprietary rights and we are unable to come to terms regarding a license with such parties, we may be forced to modify our products to make them non-infringing or to cease production of such products altogether.

Risks Related to Environmental, Health, Safety and Other Regulations

The current U.S. administration and Congress could enact legislative and regulatory measures that could adversely affect our mining operations or cost structure or our customers' ability to use coal, which could have a material adverse effect on our financial condition and results of operations.

In February 2021, the current administration announced reentry of the U.S. into the Paris Agreement along with a new "nationally determined contribution" for U.S. GHG emissions that would achieve emissions reductions of at least 50% relative to 2005 levels by 2030. The U.S. participated in the U.N. Framework Convention on Climate Change 26th Conference of the Parties ("COP26") held in Glasgow, Scotland in November 2021, advancing a Global Methane Pledge along with the European Union, which aims to cut global methane pollution at least 30% by 2030 relative to 2020 levels, including "all feasible reductions" in the energy sector. Since its formal launch at COP26, over 100 countries representing almost 70% of global GDP have signed. Most recently, at the 27th conference of parties ("COP27"),

President Biden announced the EPA's proposed standards to reduce methane emissions from existing oil and gas sources, and agreed, in conjunction with the European Union and a number of other partner countries, to develop standards for monitoring and reporting methane emissions to help create a market for low methane-intensity natural gas. Various state and local governments have also publicly committed to furthering the goals of the Paris Agreement. The \$1 trillion legislative infrastructure package passed by Congress in November 2021 includes a number of climate-focused spending initiatives targeted at climate resilience, enhanced response and preparation for extreme weather events, and clean energy and transportation investments. In August 2022, President Biden signed the Inflation Reduction Act of 2022 into law. The Inflation Reduction Act provides significant funding and incentives for research and development of low-carbon energy production methods, carbon capture, and other programs directed at addressing climate change. In addition, the Biden Administration has taken measures to unwind a number of regulatory rollbacks enacted or proposed by the Trump administration, including, among others, the ACE Rule, the NWPR, and the proposed NEPA overhaul. In addition, the Biden administration rolled back certain changes to the CCR made by the Trump administration. In January 2022, the EPA announced several actions with respect to the coal combustion residuals rules, including reiterating that surface impoundments cannot be closed with coal ash in contact with groundwater (in connection with the proposed denial of closure deadline extensions due to failure of a permittee to demonstrate compliance with coal combustion residuals rules – the EPA took final action to deny the request in November 2022) and establishing a federal permitting scheme for the disposal of coal ash and establish regulations for legacy coal ash surface impoundments. New, more stringent legislation or regulations related to the protection of the environment, health and safety or the reduction of greenhouse gas emissions, as well as changes in the interpretation and enforcement of such laws and regulations, may require us or our customers to change operations significantly or incur increased costs, which may adversely affect our mining operations, cost structure or our customers' ability to use coal. Such changes could have a material adverse effect on our financial condition and results of operations.

Laws and regulations restricting or encouraging the reduction of greenhouse gas emissions as well as uncertainty concerning such regulations and increasing public attention toward climate change could adversely impact the market for coal, increase our operating costs, and reduce the value of our coal assets and our stock price.

Climate change continues to attract considerable public and scientific attention. There is widespread concern about the contributions of human activity to such changes, especially through the emission of GHGs. Numerous reports, such as Sixth Assessment Report of the Intergovernmental Panel on Climate Change, have further raised concern about the impacts of fossil fuel combustion on global climate issues. There are three primary sources of GHGs associated with the coal industry. First, the end use of our coal by our customers in electricity generation, coke plants, and steelmaking is a source of GHGs. Second, combustion of fuel by equipment used in coal production and to transport our coal to our customers is a source of GHGs. Third, coal mining itself can release methane, which is considered to be a more potent GHG than carbon dioxide, directly into the atmosphere. These emissions from coal consumption, transportation and production are subject to pending and proposed regulation as part of initiatives to address global climate change.

As a result, numerous proposals have been adopted, made and are likely to continue to be made at the international, national, regional, state and local levels of government to monitor and limit emissions of GHGs, including alternative energy requirements, measures promoting renewable energy development, and energy conservation and emissions reductions measures, among others. Collectively, these initiatives could result in higher electricity costs to our customers or lower the demand for coal used in electric or steel generation, which could in turn adversely impact our business. Such initiatives, as well as increasing public attention to climate change more generally, could also result in direct regulation of the GHGs produced by our operations or increase the potential for governmental investigations or litigation. See "Business—Environmental and Other Regulatory Matters—Global Climate Change."

At present, we are principally focused on metallurgical coal production, which is not used in connection with the production of power generation. However, we may seek to sell greater amounts of our coal into the power-generation market in the future. The market for our coal may be adversely impacted if comprehensive legislation or regulations focusing on GHG emission reductions are adopted, or if our customers are unable to obtain financing for their operations. The extent of future regulation of GHG emissions may inhibit utilities from investing in the building of new coal-fired plants to replace older plants or investing in the upgrading of existing coal-fired plants. Any reduction in the amount of coal consumed by electric power generators as a result of actual or potential regulation of GHG emissions, including any reductions resulting from power plants ceasing operations or switching to fuels that produce fewer GHG

emissions, could decrease demand for our coal, thereby reducing our revenues and materially and adversely affecting our business and results of operations. We or prospective customers may also have to invest in carbon dioxide capture and storage technologies in order to burn coal and comply with future GHG emission standards, and new legislation, regulations or international agreements in the future could otherwise result in increased costs to operate and maintain our or our customers' facilities, capital expenditures to install other emission controls at our or our customers' facilities, and costs to administer and manage any potential climate-related reporting or greenhouse gas emissions trading or tax programs. These costs and capital expenditures could be material and could increase the cost of and reduce demand for our products. Relatedly, to the extent others use or develop new technological advances in coal production in response to market or regulatory pressures to reduce their impact on the environment, we may be placed at a competitive disadvantage or may be forced by competitive pressures to implement new technologies at substantial costs. We may not be able to respond to these competitive pressures or implement new technologies on a timely basis or at an acceptable cost. If one or more of the technologies we use now or in the future were to become obsolete, our business, financial condition or results of operations could be materially and adversely affected. See also "—Product alternatives or other technologies may reduce demand for our products."

Current and future laws, regulations and other legal requirements relating to protection of the environment and natural resources may increase our costs of doing business and may restrict our coal operations.

We and our potential customers are subject to stringent and complex laws, regulations and other legal requirements enacted by federal, state and local authorities relating to occupational health and safety and protection of the environment and natural resources. These include those legal requirements that govern discharges or emissions of materials into the environment, the management and disposal of substances and wastes, including hazardous wastes, the cleanup of contaminated sites, threatened and endangered plant and wildlife protection, reclamation and restoration of mining properties after mining is completed, mitigation and restoration of streams or other waters, the protection of drinking water, assessment of the environmental impacts of mining, monitoring and reporting requirements, the installation of various safety equipment in our mines, remediation of impacts of surface subsidence from underground mining, and work practices related to employee health and safety. See "Business—Environmental and Other Regulatory Matters." Examples include laws and regulations relating to:

- occupational health and safety;
- emissions to air and discharges to water;
- plant and wildlife protection, including endangered species protections;
- the reclamation and restoration of properties after mining or other activity has been completed;
- limitations on land use;
- mine permitting and licensing requirements;
- the storage, treatment and disposal of wastes;
- air quality standards;
- water pollution;
- protection of human health, plant-life and wildlife, including endangered and threatened species, and biodiversity;
- protection of wetlands;
- the discharge of materials into the environment;
- remediation of contaminated soil, surface and groundwater; and
- the effects of operations on surface water and groundwater quality and availability.

Complying with these environmental and employee health and safety requirements, including the terms of our permits, has had, and will continue to have, a significant effect on our costs of operations. In addition, there is the possibility that we could incur substantial costs as a result of violations of environmental laws, judicial interpretations of or rulings on environmental laws or permits, or in connection with the investigation and remediation of environmental contamination. For example, the EPA and several of the states where we operate have, or intend to, propose revised recommended aquatic life criteria for discharges of selenium regulated under the CWA, which may be more stringent than current criteria. The comment period for the EPA's draft Selenium Technical Support Materials, intended to provide implementation support for states for the recommend selenium aquatic life criterion for freshwater ended on

January 3, 2022. Any additional laws, regulations and other legal requirements enacted or adopted by federal, state and local authorities, or new interpretations of existing legal requirements by regulatory bodies relating to the protection of the environment, including those related to discharges of selenium, could further affect our costs or limit our operations. See “Business—Environmental and Other Regulatory Matters.”

Our operations may impact the environment or cause exposure to hazardous substances, and our properties may have environmental contamination, which could expose us to significant costs and liabilities.

Our operations currently use hazardous materials and generate limited quantities of hazardous wastes from time to time. Drainage flowing from or caused by mining activities can be acidic with elevated levels of dissolved metals, a condition referred to as “acid mine drainage,” or may include other pollutants requiring treatment. We could become subject to claims for toxic torts, natural resource damages and other damages as well as for the investigation and clean-up of soil, surface water, groundwater, and other media. Such claims may arise, for example, out of conditions at sites that we currently own or operate, as well as at sites that we previously owned or operated, or may acquire. Our liability for such claims may be joint and several, so that we may be held responsible for more than our share of the contamination or other damages, or for the entire share.

We maintain coal refuse areas and slurry impoundments as necessary. Such areas and impoundments are subject to extensive regulation. Structural failure of a slurry impoundment or coal refuse area could result in extensive damage to the environment and natural resources, such as bodies of water that the coal slurry reaches, as well as liability for related personal injuries and property damages, and injuries to wildlife. If an impoundment were to fail, we could be subject to claims for the resulting environmental contamination and associated liability, as well as for fines and penalties. Our coal refuse areas and slurry impoundments are designed, constructed, and inspected by our company and by regulatory authorities according to stringent environmental and safety standards.

We must obtain, maintain, and renew governmental permits and approvals for mining operations, which can be a costly and time-consuming process and result in restrictions on our operations.

Numerous governmental permits and approvals are required for mining operations. Our operations are principally regulated under permits issued pursuant to the SMCRA and the federal CWA. State and federal regulatory authorities exercise considerable discretion in the timing and scope of permit issuance. Requirements imposed by these authorities may be costly and time consuming and may result in delays in the commencement or continuation of exploration or production operations. In addition, we may be required to prepare and present to permitting or other regulatory authorities data pertaining to the effect or impact that proposed exploration for or production of coal might have on the environment.

Our coal production is dependent upon our ability to obtain various federal and state permits and approvals to mine our coal reserves. The permitting rules, and the interpretations of these rules, are complex, change frequently, and are often subject to discretionary interpretations by regulators, all of which may make compliance more difficult or impractical, and which may possibly preclude the continuance of ongoing mine development or operations or the development of future mining operations. The pace with which the government issues permits needed for new operations and for ongoing operations to continue mining, particularly CWA permits, can be time-consuming and subject to delays and denials. These delays or denials of environmental permits needed for mining could reduce our production and materially adversely impact our cash flow and results of operations.

Prior to discharging any pollutants to waters of the United States, coal mining companies must obtain a NPDES permit from the appropriate state or federal permitting authority. NPDES permits include effluent limitations for discharged pollutants and other terms and conditions, including required monitoring of discharges. Changes and proposed changes in state and federally recommended water quality standards may result in the issuance or modification of permits with new or more stringent effluent limits or terms and conditions. See “Business—Environmental and Other Regulatory Matters—Clean Water Act.”

Further, the public has certain statutory rights to comment on and submit objections to requested permits and environmental impact statements prepared in connection with applicable regulatory processes, and otherwise engage in

the permitting process, including bringing citizens' claims to challenge the issuance or renewal of permits, the validity of environmental impact statements or performance of mining activities. As a result of challenges like these, the permits we need may not be issued or renewed in a timely fashion or issued or renewed at all, or permits issued or renewed may not be maintained, may be challenged or may be conditioned in a manner that may restrict our ability to efficiently and economically conduct our mining activities, any of which would materially reduce our production, cash flow, and profitability.

Permitting rules may also require, under certain circumstances, that we obtain surface-owner consent if the surface estate has been severed from the mineral estate. This could require us to negotiate with third parties for surface access that overlies coal we acquired or intend to acquire. These negotiations can be costly and time-consuming, lasting years in some instances, which can create additional delays in the permitting process. If we cannot successfully negotiate for land access, we could be denied a permit to mine coal we already own.

Federal or state regulatory agencies have the authority to order certain of our mines to be temporarily or permanently closed under certain circumstances, which could materially and adversely affect our ability to meet our customers' demands.

Federal or state regulatory agencies have the authority, under certain circumstances following significant health and safety incidents, such as fatalities, to order a mine to be temporarily or permanently closed. If this occurred, we may be required to incur capital expenditures to re-open the mine. In the event that these agencies order the closing of our mines, our coal sales contracts generally permit us to issue force majeure notices which suspend our obligations to deliver coal under these contracts. However, our customers may challenge our issuances of force majeure notices. If these challenges are successful, we may have to purchase coal from third-party sources, if it is available, to fulfill these obligations, incur capital expenditures to re-open the mines and/or negotiate settlements with the customers, which may include price reductions, the reduction of commitments, the extension of time for delivery or the termination of customers' contracts. Any of these actions could have a material adverse effect on our business and results of operations.

Our customers are subject to extensive existing and future laws, regulations and other legal requirements relating to protection of the environment, which could negatively impact our business and the market for our products.

Coal contains impurities, including sulfur, mercury, chlorine and other elements or compounds, many of which are released into the air when coal is burned. Complying with regulations to address these emissions can be costly for our customers. For example, in order to meet the CAA limits for sulfur dioxide emissions from electric power plants, coal users must install costly pollution control devices, use sulfur dioxide emission allowances (some of which they may purchase), or switch to other fuels. More costly and stringent environmental regulations could adversely impact the operations of our customers, which could in turn adversely impact our business. A number of coal-fired power plants, particularly smaller and older plants, already have retired or announced that they will retire rather than retrofit to meet the obligations of these rules.

In addition, considerable uncertainty is associated with new air emissions initiatives that may require significant emissions control expenditures for many coal-fired power plants. As a result, some of our prospective customers may switch to other fuels that generate fewer of these emissions or may install more effective pollution control equipment that reduces the need for low-sulfur coal. Any further switching of fuel sources away from coal, closure of existing coal-fired power plants, or reduced construction of new coal-fired power plants could have a material adverse effect on demand for, and prices received for, our coal. In addition, our coke plant and steelmaking customers may face increased operational costs as a result of higher electric costs. See "Business—Environmental and Other Regulatory Matters."

Apart from actual and potential regulation of air emissions and solid wastes from coal-fired plants, state and federal mandates for increased use of electricity from renewable energy sources could have an impact on the market for our coal. Many states, including Pennsylvania and Virginia, have enacted legislative mandates requiring electricity suppliers to use renewable energy sources to generate a certain percentage of power. Possible advances in technologies and incentives, such as under the Inflation Reduction Act of 2022, to enhance the economics of renewable energy sources could make these sources more competitive with coal. Any reductions in the amount of coal consumed by electric power generators as a result of current or new standards for the emission of impurities, or current or new

incentives to switch to renewable fuels or renewable energy sources could reduce the demand for our coal, thereby reducing our revenues and adversely affecting our business, cash flows, results of operations and our ability to pay dividends to our stockholders.

Negative sentiment with regard to our business or our industry as well as activism, consumer preferences, and initiatives aimed at limiting climate change or a reduction of air pollutants could interfere with our business activities, operations and ability to access capital sources, result in reduced demand for our products, and negatively impact our stock price.

Public perception of our industry's contribution to climate change or detractions from the transition to a lower-carbon economy has generated negative sentiment toward our industry and could result in reputational harm to our business, lower demand for our products, and increased demand for alternatives to our products. Numerous activist groups are devoting resources to anti-coal activities to minimize or eliminate the production of or use of coal as a source of electricity generation, domestically and internationally. Participants in the coal mining industry are frequently targeted by activist groups that openly attempt to disrupt the industry. For example, Greenpeace International filed a letter with the SEC alleging that one coal mining company's filings relating to a proposed public offering of securities may contain incomplete and misleading disclosures regarding the risks of investing in the coal market. On another occasion, the Sierra Club sent a letter to the SEC stating that it believed a coal mining company may be giving potential investors false impressions regarding risks to its business. Other groups have objected to our RAM No. 1 mine permit application in Pennsylvania. It is possible that we could continue to be the target of similar actions in the future, including when we attempt to grow our business through acquisitions or commence new mining operations. Activist groups have also brought lawsuits challenging the issuance of individual coal leases, historical and pending regulatory approvals, permits and processes that are necessary to conduct coal mining operations or to operate coal-fueled power plants. Negative public perception could cause the permits we require to conduct our operations to be withheld, delayed or burdened by requirements that restrict our ability to profitably conduct our business. Litigation risks are also increasing, as a number of government entities and private individuals have sought to bring suit against fossil fuel companies, alleging, among other things, that such companies created public nuisances by producing fuels that contributed to climate change or alleging that the companies have been aware of the adverse effects of climate change for some time but failed to adequately disclose such impacts to their investors or customers. Private individuals or public entities may also seek to enforce laws and regulations against us and could allege personal injury, property damages or other liabilities in relation to climate change or other ESG matters. An unfavorable ruling in any such case could have an adverse impact on our financial condition. Any such activism could therefore materially and adversely impact our ability to operate our business or raise capital.

In addition, there have also been efforts in recent years to influence the investment community, including investment advisors, sovereign wealth funds, public pension funds, universities and other groups, promoting the divestment of fossil fuel equities; encouraging the consideration of environmental, social and governance ("ESG") practices and ESG ratings of companies in a manner that may negatively affect coal companies, including increased negative investor sentiment, divestment of securities issued by coal companies and the diversion of investment to other industries; and also pressuring lenders to limit funding to companies engaged in the extraction of fossil fuel reserves. For example, certain financial institutions, including banks and insurance companies, have taken actions to limit available financing, insurance and other services to entities that produce or use fossil fuels. Several large investment banks have adopted climate change guidelines for lenders. The guidelines require the evaluation of carbon risks in the financing of electric power generation plants, which may make it more difficult for utilities to obtain financing for coal-fired plants. The impact of such efforts and developments may adversely affect the demand for and price of securities issued by us, adversely impact our access to the capital and financial markets, increase the cost of borrowing, cause a decline in our credit rating, increase the cost or reduce the availability of third-party insurance, increase our retention of risk through self-insurance, and limit our flexibility and ability to conduct business development activities. Further, in California, legislation was signed into law in September 2015 to require the state's pension funds to divest investments in companies that generate 50% or more of their revenue from coal mining by July 2017. Additionally, Maine passed a law in June 2021 requiring the state pension system to divest holdings in coal, petroleum, natural gas and related products by 2026, and the New York State Common Retirement Fund has and is continuing to divest from coal assets. These efforts and developments, as well as concerted conservation and efficiency efforts, could also cause coal prices and sales of our coal to materially decline and could cause our costs to increase.

Other activist campaigns have urged companies to cease financing coal-driven businesses. A number of investors and asset managers have enacted such policies as a result, including by beginning to exit investments that present high sustainability-related risks, such as thermal coal producers. The impact of such efforts may adversely affect the demand for and price of securities issued by us and impact our access to the capital and financial markets. In addition, several well-funded non-governmental organizations have explicitly undertaken campaigns to minimize or eliminate mining and the use of coal as a source of electricity generation. The net effect of these developments is to make it more costly and difficult to maintain our business and to continue to depress the market for coal.

Our mines are subject to stringent federal and state safety regulations that increase our cost of doing business at active operations and may place restrictions on our methods of operation. In addition, government inspectors in certain circumstances may have the ability to order our operations to be shut down based on safety considerations.

The MINE Act and MINER Act, and regulations issued under these federal statutes, impose stringent health and safety standards on mining operations. The regulations that have been adopted under the MINE Act and the MINER Act are comprehensive and affect numerous aspects of mining operations, including training of mine personnel, mining procedures, roof control, ventilation, blasting, use and maintenance of mining equipment, dust and noise control, communications, emergency response procedures, and other matters. MSHA regularly inspects mines to ensure compliance with regulations promulgated under the MINE Act and MINER Act. In addition, Pennsylvania, West Virginia, and Virginia all have similar programs for mine safety and health regulation and enforcement.

The various requirements mandated by federal and state statutes, rules, and regulations may place restrictions on our methods of operation and potentially result in fees and civil penalties for violations of such requirements or criminal liability for the knowing violation of such standards, significantly impacting operating costs and productivity. In addition, government inspectors have the authority to issue orders to shut down our operations based on safety considerations under certain circumstances, such as imminent dangers, accidents, failures to abate violations, and unwarrantable failures to comply with mandatory safety standards. See “Business—Environmental and Other Regulatory Matters—Mine Safety and Health.”

The regulations enacted under the MINE Act and MINER Act as well as under similar state acts are routinely expanded, raising compliance costs and increasing potential liability. These existing and other future mine safety rules could potentially result in or require significant expenditures, as well as additional safety training and planning, enhanced safety equipment, more frequent mine inspections, stricter enforcement practices and enhanced reporting requirements. At this time, it is not possible to predict the full effect that new or proposed statutes, regulations and policies will have on our operating costs, but any expansion of existing regulations, or making such regulations more stringent may have a negative impact on the profitability of our operations. If we were to be found in violation of mine safety and health regulations, we could face penalties or restrictions that may materially and adversely impact our operations, financial results and liquidity.

We must also compensate employees for work-related injuries. State workers’ compensation acts typically provide for an exception to an employer’s immunity from civil lawsuits for workplace injuries in the case of intentional torts. In such situations, an injured worker would be able to bring suit against his or her employer for damages in excess of workers’ compensation benefits. In addition, West Virginia’s workers’ compensation act provides a much broader exception to workers’ compensation immunity, allowing an injured employee to recover against his or her employer if he or she can show damages caused by an unsafe working condition of which the employer was aware and that was a violation of a statute, regulation, rule or consensus industry standard. These types of lawsuits are not uncommon and could have a significant effect on our operating costs.

We have obtained from a third-party insurer a workers’ compensation insurance policy, which includes coverage for medical and disability benefits for black lung disease under the Federal Coal Mine Health and Safety Act of 1969 and the MINE Act. We perform periodic evaluations of our black lung liability, using assumptions regarding rates of successful claims, discount factors, benefit increases and mortality rates, among others. Of note, the Patient Protection and Affordable Care Act of 2010 significantly amended the black lung provisions of the MINE Act by reenacting two provisions, which had been eliminated in 1981. Under the amendments, a miner with at least fifteen years of

underground coal mine employment (or surface mine employment with similar dust exposure) who can prove that he suffers from a totally disabling respiratory condition is entitled to a rebuttable presumption that his disability is caused by black lung. The other amendment provides that the surviving spouse of a miner who was collecting federal black lung benefits at the time of his death is entitled to a continuation of those benefits. These changes could have a material impact on our costs expended in association with the federal black lung program.

We have reclamation, mine closing, and related environmental obligations under the SMCRA. If the assumptions underlying our accruals are inaccurate, we could be required to expend greater amounts than anticipated.

The SMCRA establishes operational, reclamation and closure standards for our mining operations. The SMCRA requires that comprehensive environmental protection and reclamation standards be met during the course of and following completion of mining activities. Permits for all mining operations must be obtained from the OSMRE or, where state regulatory agencies have adopted federally approved state programs under the SMCRA, the appropriate state regulatory authority. Our operations are located in states which have achieved primary jurisdiction for enforcement of the SMCRA through approved state programs. See “Business—Environmental and Other Regulatory Matters.”

In addition, the SMCRA imposes a reclamation fee on all current mining operations, the proceeds of which are deposited in the AML Fund, which is used to restore unreclaimed and abandoned mine lands mined before 1977. The current per ton fee is \$0.224 per ton for surface mined coal and \$0.096 per ton for underground mined coal. These fees are currently scheduled to be in effect until September 30, 2034, and on November 15, 2021, the Infrastructure Investment and Jobs Act (“IIJA”), which included the Abandoned Mine Land Reclamation Amendments of 2021, extended OSMRE’s statutory authority to collect reclamation fees for an additional 13 years and to reduce the fee rates.

We accrue for the costs of current mine disturbance and of final mine closure, including the cost of treating mine water discharge where necessary. The amounts recorded are dependent upon a number of variables, including the estimated future closure costs, estimated proven reserves, assumptions involving profit margins, inflation rates, and the assumed credit-adjusted risk-free interest rates. If these accruals are insufficient or our liability in a particular year is greater than currently anticipated, our future operating results could be adversely affected. We are also required to post bonds for the cost of a coal mine as a condition of our mining activities.

Risks Related to Our Company

Our ability to pay dividends on our Class A common stock and our Class B common stock may be limited by the amount of cash we generate from operations following the payment of fees and expenses, by restrictions in debt instruments and by additional factors unrelated to our profitability.

We have paid quarterly dividends in the past and may pay additional special and regular quarterly dividends in the future. Our ability to pay dividends is subject to the discretion of our board of directors and the requirements of applicable law. The timing and amount of dividends declared will depend on, among other things: (a) our earnings, earnings outlook, financial condition, production, processing and shipping levels, financial condition, cash flow, cash requirements and our outlook on current and future market conditions, (b) our liquidity, including our ability to obtain debt and equity financing on acceptable terms, (c) restrictive covenants in our Credit and Security Agreement (the “Credit Agreement”) with KeyBank National Association, as the administrative agent, and other lenders party thereto, and any future debt instruments and (d) provisions of applicable law governing the payment of dividends.

The metallurgical coal industry is highly volatile, and we cannot predict with certainty the amount of cash, if any, that will be available for distribution as dividends in any period. Also, there may be a high degree of variability from period to period in the amount of cash, if any, that is available for the payment of dividends. The amount of cash we generate from operations and the actual amount of cash we will have available for dividends will vary based upon, among other things:

- risks related to the impact of the COVID-19 global pandemic, such as the scope and duration of the outbreak, the health and safety of our employees, government actions and restrictive measures

- implemented in response, delays and cancellations of customer sales, supply chain disruptions and other impacts to the business, or our ability to execute our business continuity plans;
- the development of our properties into producing coal mines;
- the ability to begin generating significant revenues and operating cash flows;
- the market price for coal;
- overall domestic and global economic conditions, including the supply of and demand for domestic and foreign coal, coke and steel;
- unexpected operational events or geological conditions;
- cost overruns;
- our ability to enter into agreements governing the sale of coal, which are generally short-term in nature and subject to fluctuations in market pricing;
- the level of our operating costs;
- prevailing global and regional economic and political conditions;
- changes in interest rates;
- the impact of domestic and foreign governmental laws and regulations, including environmental and climate change regulations and regulations affecting the coal mining industry;
- delays in the receipt of, failure to receive, failure to maintain or revocation of necessary governmental permits;
- modification or revocation of our dividend policy by our board of directors; and
- the amount of any cash reserves established by our board of directors.

The amount of cash we generate from our operations may differ materially from our net income or loss for the period, which will be affected by non-cash items. We may incur other expenses or liabilities that could reduce or eliminate the cash available for distribution as dividends.

In addition, financing agreements may prohibit the payment of dividends if an event of default has occurred and is continuing or would occur as a result of the payment of such dividends.

In addition, Section 170 of the Delaware General Corporation Law (the “DGCL”) allows our board of directors to declare and pay dividends on the shares of our Class A common stock and Class B common stock either (i) out of our surplus, as defined in and computed in accordance with the DGCL or (ii) in case there shall be no such surplus, out of our net profits for the fiscal year in which the dividend is declared and/or the preceding fiscal year. We may not have sufficient surplus or net profits in the future to pay dividends, and our subsidiaries may not have sufficient funds, surplus or net profits to make distributions to us. As a result of these and the other factors mentioned above, we can give no assurance that dividends will be paid in the future.

As of December 31, 2022, we ceased being an emerging growth company and, as a result, we have incurred and expect to continue to incur significant additional legal and financial compliance costs by complying with increased disclosure and governance requirements.

As of December 31, 2022, as a result of our market capitalization as of June 30, 2022, we became an accelerated filer and ceased being an emerging growth company. Therefore, we are subject to certain requirements that apply to other public companies but did not previously apply to us due to our status as an emerging growth company. These requirements include:

- the provisions of Section 404 requiring that our independent registered public accounting firm provide an attestation report on the effectiveness of our internal control over financial reporting;
- the requirement to provide detailed compensation discussion and analysis in proxy statements and reports filed under the Exchange Act; and
- the “say on pay” provisions (requiring a non-binding stockholder vote to approve compensation of certain executive officers) and the “say on golden parachute” provisions (requiring a non-binding stockholder vote

to approve golden parachute arrangements for certain executive officers in connection with mergers and certain other business combinations) of the Dodd-Frank Wall Street Reform and Consumer Protection Act, or the Dodd-Frank Act.

We have already incurred significant additional legal and financial compliance costs in connection with our loss of emerging growth company status. We expect that our compliance with these additional requirements, including the provisions of Section 404, will continue to substantially increase our legal and financial compliance costs and make some activities more time consuming and costly.

Your percentage of ownership in us may be diluted in the future.

Your percentage of ownership in us may be diluted because of equity issuances for acquisitions, capital market transactions or otherwise, including, without limitation, equity awards that we may be granting to our directors, officers and employees. Such issuances may have a dilutive effect on our earnings per share, which could adversely affect the market price of our Class A common stock and Class B common stock.

It is anticipated that the compensation committee of the board of directors of the Company will grant additional equity awards to Company employees and directors, from time to time, under the Company's compensation and employee benefit plans. These additional awards will have a dilutive effect on the Company's earnings per share, which could adversely affect the market price of the Company's Class A common stock and Class B common stock.

In addition, our Charter authorizes us to issue, without the approval of our stockholders, one or more classes or series of preferred stock having such designation, powers, preferences and relative, participating, optional and other special rights, including preferences over our common stock with respect to dividends and distributions, as our board of directors generally may determine. The terms of one or more classes or series of preferred stock could dilute the voting power or reduce the value of our Class A common stock and Class B common stock. For example, we could grant the holders of preferred stock the right to elect some number of our directors in all events or on the happening of specified events or to veto specified transactions. Similarly, the repurchase or redemption rights or liquidation preferences we could assign to holders of preferred stock could affect the residual value of our Class A common stock and Class B common stock.

Certain of our directors have significant duties with, and spend significant time serving, entities that may compete with us in seeking acquisitions and business opportunities and, accordingly, may have conflicts of interest in allocating time or pursuing business opportunities.

Certain of our directors hold positions of responsibility with other entities (including Yorktown-affiliated entities) that are in the business of identifying and acquiring coal reserves. The existing positions held by these directors may give rise to fiduciary or other duties that are in conflict with the duties they owe to us. These directors may become aware of business opportunities that may be appropriate for presentation to us as well as to the other entities with which they are or may become affiliated. Due to these existing and potential future affiliations, they may present potential business opportunities to other entities prior to presenting them to us, which could cause additional conflicts of interest. They may also decide that certain opportunities are more appropriate for other entities with which they are affiliated, and as a result, they may elect not to present those opportunities to us. These conflicts may not be resolved in our favor.

Our Charter and bylaws, as well as Delaware law, contain provisions that could discourage acquisition bids or merger proposals, which may adversely affect the market price of our Class A common stock and Class B common stock.

Our Charter authorizes our board of directors to issue preferred stock without stockholder approval. If our board of directors elects to issue preferred stock, it could be more difficult for a third-party to acquire us. In addition, some provisions of our Charter and bylaws could make it more difficult for a third-party to acquire control of us, even if the change of control would be beneficial to our stockholders, including:

- limitations on the removal of directors;
- limitations on the ability of our stockholders to call special meetings;
- establishing advance notice provisions for stockholder proposals and nominations for elections to the board of directors to be acted upon at meetings of stockholders;
- providing that the board of directors is expressly authorized to adopt, or to alter or repeal our bylaws; and
- establishing advance notice and certain information requirements for nominations for election to our board of directors or for proposing matters that can be acted upon by stockholders at stockholder meetings.

Our Charter designates the Court of Chancery of the State of Delaware as the sole and exclusive forum for certain types of actions and proceedings that may be initiated by our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers, employees or agents.

Our Charter provides that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware will, to the fullest extent permitted by applicable law, be the sole and exclusive forum for (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers, employees or agents to us or our stockholders, (iii) any action asserting a claim arising pursuant to any provision of the DGCL, our Charter or our bylaws, or (iv) any action asserting a claim against us that is governed by the internal affairs doctrine, in each such case subject to such Court of Chancery having personal jurisdiction over the indispensable parties named as defendants therein. This exclusive forum provision does not apply to a cause of action brought under federal or state securities laws. Any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock will be deemed to have notice of, and consented to, the provisions of our Charter described in the preceding sentence. This choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers, employees or agents, which may discourage such lawsuits against us and such persons. Alternatively, if a court were to find these provisions of our Charter inapplicable to, or unenforceable in respect of, one or more of the specified types of actions or proceedings, we may incur additional costs associated with resolving such matters in other jurisdictions, which could adversely affect our business, financial condition or results of operations.

We have identified a material weakness in our internal controls over financial reporting. Our systems and procedures for internal control over financial reporting and the disclosure controls related to them have, and may have in the future, material weaknesses, which may adversely affect the value of our common stock.

We are responsible for maintaining systems and documentation necessary to evaluate the effectiveness of our internal control over financial reporting. These activities may divert management's attention from other business concerns. As described in Part II, Item 9A, "Controls and Procedures" in this Annual Report, we have determined that certain of our internal controls over financial reporting have material weaknesses. If we are unable to correct those issues in a timely fashion, or if other internal control issues arise, there could be a material adverse effect on our business, financial condition, results of operations and cash flows, and investors could lose confidence in our reported results, thus affecting our ability to finance our business. To maintain and improve our controls and procedures, we must commit significant resources, may be required to hire additional staff and will need to continue to provide effective management oversight, which could have a material adverse effect on our business, financial condition, results of operations and cash flows. The material weaknesses will not be considered remediated until enhanced controls are implemented and operate for a sufficient period of time and management has concluded, through testing, that the related controls are effective. We can give no assurance that the measures we take to remediate the material weaknesses will be effective.

Risks Related to Our Class B Common Stock Structure

Holders of Class B common stock are common stockholders of the Company and, therefore, are subject to risks associated with an investment in the Company as a whole, even if a holder does not own shares of Class A common stock.

We retain legal title to all of our assets and our tracking stock capitalization does not limit our legal responsibility, or that of our subsidiaries, for the liabilities included in any set of financial statement schedules. Holders of Class B common stock do not have any legal rights related to specific assets attributed to CORE and, in any liquidation, holders of Class B common stock and Class A common stock will be entitled to receive a pro rata share of our available net assets based on their respective numbers of shares.

Our Board's ability to reattribute businesses, assets and expenses between the Class A common stock and Class B common stock may make it difficult to assess the future prospects of a class of common stock based on past performance.

Our Board currently expects to attribute 100% of the costs associated with the CORE Assets to Ramaco Resources and zero such costs to CORE; however, our Board is vested with discretion to reattribute businesses, assets and liabilities that are attributed to one class of common stock to another class of common stock, without the approval of any of our stockholders. Any such reattribution made by our Board, as well as the existence, in and of itself, of the right to effect a reattribution may impact the ability of investors to assess the future prospects of the businesses and assets attributed to a class of common stock, including liquidity and capital resource needs to pay the projected dividend to holders of our Class B common stock, based on past performance. Stockholders may also have difficulty evaluating the liquidity and capital resources of the businesses and assets attributed to each class of common stock based on past performance, as our Board may use the liquidity of one class to fund the liquidity of another class and capital expenditure requirements through the use of loans and interests between classes.

We could be required to use assets attributed to one class of common stock to pay liabilities attributed to another class.

The assets attributed to one class are potentially subject to the liabilities attributed to another class, even if those liabilities arise from lawsuits, contracts or indebtedness that are attributed to such other class. No provision of our Second Amended and Restated Certificate of Incorporation (the "Amended Charter") prevents us from satisfying liabilities of one class with assets of another class, and our creditors will not in any way be limited by our tracking stock capitalization from proceeding against any assets they could have proceeded against if we did not have a tracking stock capitalization.

Dividends on our Class B common stock are discretionary and may fluctuate materially quarter to quarter. We cannot guarantee that we will be able to pay dividends in the future or what the actual dividends will be for any future periods.

Our ability to pay dividends is subject to the discretion of our Board, the requirements of applicable law, any statutory or contractual restrictions on the payment of dividends, any prior rights and preferences that may be applicable to any outstanding preferred stock and commercial factors, whether or not attributable to the CORE Assets. We may lack sufficient cash to pay dividends to our Class B stockholders due to cash flow shortfalls attributable to a number of factors, many of which are beyond our control, as well as increases in corporate level general and administrative expenses, principal and interest payments on our outstanding debt, tax expenses, working capital requirements and anticipated cash needs. The timing and amount of dividends declared in future periods will depend on, among other things, (a) our earnings, earnings outlook, production, processing and shipping levels, financial condition, cash flow, cash requirements and our outlook on current and future market conditions, (b) our overall liquidity, (c) the restrictive covenants in the Second Amended and Restated Credit and Security Agreement and any future debt instruments that we may enter into and (d) provisions of applicable law governing the dividends. We have not established a minimum dividend payment for any class of our Common Stock, including our Class B common stock. Further our ability to pay and the amount of dividends declared in future periods may be harmed by other risk factors described herein and incorporated by reference herein. Our ability to pay dividends may fluctuate materially from quarter to quarter, and any quarterly estimate is subject to uncertainty due to the factors described above and elsewhere herein.

The market price of the Class B common stock may not reflect the performance of CORE attributed to it, as we intend.

We cannot assure the holders of Class B common stock that the market price of the Class B common stock related to CORE will, in fact, reflect the performance of CORE attributed to it. Holders of Class B common stock are common stockholders of the Company as a whole and, as such, are subject to all risks associated with an investment in the Company and all of our businesses, assets and liabilities. As a result, the market price of Class B common stock may, in part, reflect events that are intended to be reflected by the Class A common stock of the Company. In addition, investors may discount the value of Class B common stock because it is part of a common enterprise rather than a stand-alone entity.

The market price of the Class B common stock has been volatile, has fluctuated substantially, and could be affected by factors that do not affect traditional common stock.

To the extent the market price of the Class B common stock tracks the performance of more focused classes of businesses and assets than our Class A common stock does, the market price of the Class B common stock may be more volatile than the market price of our existing common stock has been historically. The market price of the Class B common stock may be materially affected by, among other things:

- actual or anticipated fluctuations CORE's operating results;
- potential acquisition activity by the Company (regardless of the class to which it is attributed) or the companies in which we invest;
- issuances of debt or equity securities to raise capital by the Company or the companies in which we invest and the manner in which that debt or the proceeds of an equity issuance are attributed to each of the classes;
- changes in financial estimates by securities analysts regarding the Class B common stock, the Class A common stock or CORE attributable to the Class B common stock;
- the complex nature and the potential difficulties investors may have in understanding the terms of our new tracking stock, as well as concerns regarding the possible effect of certain of those terms on an investment in our stocks; and
- general market conditions.

Until an orderly trading market develops for the Class B common stock, the trading price of the Class B common stock may fluctuate significantly.

The market value of the Class B common stock could be adversely affected by events involving the other assets and businesses of the Company.

Because we are the issuer of the Class B common stock, an adverse market reaction to events relating to any of our assets and businesses, such as earnings announcements or announcements of new products or services, acquisitions or dispositions that the market does not view favorably, may cause an adverse market reaction in a particular class of common stock. This could occur even if the triggering event is not material to us as a whole. Certain events may also have a greater impact on one class than the same triggering event would have on another class due to the asset composition of the affected class. In addition, the incurrence of significant indebtedness by us or any of our subsidiaries on behalf of one class, including indebtedness incurred or assumed in connection with acquisitions of or investments in businesses, could affect our credit rating and that of our subsidiaries and, therefore, could increase the borrowing costs of businesses attributable to our other classes or the borrowing costs of the Company as a whole.

We may not pay dividends equally or at all on our classes of common stock.

We have the right to pay dividends on the shares of Class A common stock and Class B common stock in equal or unequal amounts, and we may pay dividends on one class of common stock and not pay dividends on another class. In addition, any dividends or distributions on, or repurchases of, shares relating to a class will reduce our assets legally available to be paid as dividends on another class.

Our tracking stock capital structure could create conflicts of interest, and our Board may make decisions that could adversely affect only the holders of one class of our common stock.

Our tracking stock capital structure could give rise to occasions when the interests of holders of one class of common stock might diverge or appear to diverge from the interests of holders of another class of common stock. Our Class B common stock is not issued by a separate entity and thus holders of Class B common stock do not have the right to elect a separate board of directors. As a result, the Company's officers and directors owe fiduciary duties to the Company as a whole and all of our stockholders as opposed to only holders of a particular class of common stock. Decisions deemed to be in the best interest of the Company and all of our stockholders may not be in the best interest of a particular class of common stock when considered independently. Examples include:

- decisions as to the terms of any business relationships between classes of common stock;
- the terms of any reattributions of assets between classes of common stock;
- decisions as to the allocation of consideration among the holders of Class B common stock and Class A common stock to be received in connection with a merger involving the Company;
- decisions as to the allocation of corporate opportunities between the classes, especially where the opportunities might meet the strategic business objectives of both classes;
- decisions as to operational and financial matters that could be considered detrimental to one class but beneficial to the other;
- decisions as to the conversion of shares of Class B common stock into shares of Class A common stock;
- decisions regarding the creation of, and, if created, the subsequent increase or decrease of any interest that one class of common stock may own in the other class of common stock;
- decisions as to the internal or external financing attributable to businesses or assets attributed to any of our classes of common stock;
- decisions as to the dispositions of assets of any of our classes of common stock; and
- decisions as to the payment of dividends on any of our classes of common stock.

Our directors' or officers' equity ownership may create or appear to create conflicts of interest.

If directors or officers own disproportionate interests (in percentage or value terms) in Class A common stock or Class B common stock, that disparity could create or appear to create conflicts of interest when they are faced with decisions that could have different implications for the holders of Class A common stock or Class B common stock.

We have not adopted any specific procedures for consideration of matters involving a divergence of interests among holders of Class A common stock or Class B common stock. Rather than develop additional specific procedures in advance, our Board intends to exercise its judgment from time to time, depending on the circumstances, as to how best to:

- obtain information regarding the divergence (or potential divergence) of interests;
- determine under what circumstances to seek the assistance of outside advisers;
- determine whether a committee of our Board should be appointed to address a specific matter and the appropriate members of that committee; and
- assess what is in the Company's best interests and the best interests of all of our stockholders.

Our Board believes the advantage of retaining flexibility in determining how to fulfill its responsibilities in any such circumstances as they may arise outweighs any perceived advantages of adopting additional specific procedures in advance.

Our Board does not expect to formally adopt any management or allocation policies with respect to the CORE Assets.

The Board does not expect to formally adopt any management or allocation policies with respect to the CORE Assets to serve as guidelines in making decisions regarding the relationship between the Company's overall business and CORE with respect to matters such as tax liabilities and benefits, loans between the two, attribution of assets, financing alternatives, corporate opportunities and similar items. Such determinations are in the sole discretion of our Board and our Board may at any time change or make exceptions to the relationship between CORE and Ramaco Resources. A decision to change, or make exceptions to, these arrangements could disadvantage one class of stockholder while advantaging the other.

Holders of a class of common stock may not have any remedies if any action by our directors or officers has an adverse effect on only that class of common stock.

Principles of applicable law and the provisions of our Amended Charter may protect decisions of our Board that have a disparate impact upon a particular class of common stock. Under applicable law, our Board has a duty to act with due care and in the best interests of all of our stockholders, regardless of the class of stock, or series, they hold. Principles of applicable law established in cases involving differing treatment of multiple classes or series of stock provide that a Board owes an equal duty to all stockholders and does not have separate or additional duties to any subset of stockholders. Judicial opinions in Delaware involving tracking stocks have established that decisions by directors or officers involving differing treatment of holders of tracking stocks may be judged under the business judgment rule. In some circumstances, our directors or officers may be required to make a decision that is viewed as adverse to the holders of a particular series of that stock. Under the principles of applicable law and the business judgment rule referred to above, the holders of Class B common stock may not be able to successfully challenge decisions that they believe have a disparate impact upon the stockholders of one of our classes if a majority of our Board is disinterested and independent with respect to the action taken, is adequately informed with respect to the action taken and acts in good faith and in the honest belief that our Board is acting in the best interest of the Company and all of our stockholders.

Stockholders will not vote on how to attribute consideration received in connection with a merger involving the Company among holders of Class A common stock and Class B common stock.

Our Amended Charter does not contain any provisions governing how consideration received in connection with a merger or consolidation involving the Company is to be to the holders of Class A common stock and Class B common stock, and none of the holders of Class A common stock and Class B common stock will have a separate class vote in the event of such a merger or consolidation. Consistent with applicable principles of applicable law, our Board will seek to divide the type and amount of consideration received in a merger or consolidation involving the Company among holders of Class A common stock and Class B common stock in a fair manner. As the different ways our Board may divide the consideration between holders of the different classes of stock might have materially different results, the consideration to be received by holders of Class B common stock in any such merger or consolidation may be materially less valuable than the consideration they would have received if they had a separate class vote on such merger or consolidation.

We may dispose of assets of CORE without the approval of the Class B common stockholders.

Applicable law requires stockholder approval only for a sale or other disposition of all or substantially all of the assets of the Company taken as a whole, and our Amended Charter does not require a separate class vote in the case of a sale of a significant amount of assets attributed to any of our classes of common stock. As long as the assets attributed to a certain class of common stock proposed to be disposed of represent less than substantially all of our assets, we may approve sales and other dispositions of any amount of the assets of such class without any stockholder approval.

Our Board will decide, in its sole discretion, how to proceed and is not required to select the option that would result in the highest value to holders of any particular class of stock.

Holders of Class B common stock may receive less consideration upon a sale of the assets attributed to that class than if that class were a separate company.

If CORE was a separate, independent company and its shares were acquired by another person, certain costs of that sale, including corporate level taxes, might not be payable in connection with that acquisition. As a result, stockholders of a separate, independent company with the same assets might receive a greater amount of proceeds than the holders of Class B common stock would receive upon a sale of all or substantially all of the assets of CORE. In addition, we cannot assure the holders of Class B common stock that in the event of such a sale the per share consideration to be paid to holders of Class B common stock will be equal to or more than the per share value of that share of stock prior to or after the announcement of a sale of all or substantially all of the assets of CORE. Further, there is no requirement that the consideration paid be tax-free to the holders of Class B common stock. Accordingly, if we sell all or substantially all of the assets attributed to CORE, our Class B stockholders could suffer a loss in the value of their investment in our Class B common stock.

In the event of a liquidation of Ramaco Resources, holders of Class B common stock will not have a priority with respect to the assets attributed to CORE remaining for distribution to stockholders.

Under the Amended Charter, upon Ramaco Resources' liquidation, dissolution or winding up, holders of Class A common stock and Class B common stock will be entitled to receive, in respect of their shares of such stock, their proportionate interest in all of Ramaco Resources' assets, if any, remaining for distribution to holders of common stock in proportion to their respective number of shares. Hence, the assets to be distributed to a holder of either class of common stock upon a liquidation, dissolution or winding up of Ramaco Resources will have nothing to do with the value of the assets attributed to the class of common stock or to changes in the relative value of the Class B common stock over time.

Our Board may, in its sole discretion, elect to convert the Class B common stock to Class A common stock, thereby changing the nature of an investment in the Class B common stock and possibly diluting the economic interest in the Company of Class B common stock holders, which could result in a loss in value to such holders.

Our Amended Charter permits our Board, in its sole discretion, to convert all of the outstanding shares of Class B common stock into shares of Class A common stock based on an exchange ratio determined by a 20-day trailing VWAP for each class of stock. A conversion would preclude the holders of Class B common stock from retaining their investment in a security that is intended to reflect separately the performance of CORE. We cannot predict the impact on the market value of our stock of (1) our Board's ability to effect any such conversion or (2) the exercise of this conversion right by our Board. In addition, our Board may effect such a conversion at a time when the market value of our different stocks could cause the stockholders of one group to be disadvantaged.

Holders of Class A common stock and Class B common stock vote together and have limited separate voting rights.

Holders of Class A common stock and Class B common stock vote together as a single class, except in certain limited circumstances prescribed under applicable law. When holders of Class A common stock and Class B common stock vote together as a single class, holders having a majority of the votes will be in a position to control the outcome of

the vote even if the matter involves a conflict of interest among our stockholders or has a greater impact on one class than another.

Transactions in Class B common stock by our insiders could depress the market price of those stocks.

Sales of, or hedging transactions such as collars relating to, shares of Class B common stock by any of our directors or executive officers, could cause a perception in the marketplace that the stock price of the Class B common stock has peaked or that adverse events or trends have occurred or may be occurring at the Company or with respect to the Class B common stock. This perception can result notwithstanding any personal financial motivation for these transactions. As a result, insider transactions could depress the market price for shares of the Class B common stock.

Our capital structure, as well as the fact that CORE is not an independent company, may inhibit or prevent acquisition bids for CORE attributed to the Class B common stock and may make it difficult for a third party to acquire us, even if doing so may be beneficial to our stockholders.

If CORE were a separate independent company, any person interested in acquiring CORE without negotiating with management could seek control of that class by obtaining control of its outstanding voting stock, by means of a tender offer or a proxy contest. Although we intend Class B common stock to reflect the separate economic performance of CORE, it is not a separate entity, and a person interested in acquiring that class of common stock without negotiation with our management could obtain control of that class only by obtaining control of a majority in voting power of all of the outstanding voting shares of the Company. The existence of different classes of common stock could present complexities and in certain circumstances pose obstacles, financial and otherwise, to an acquiring person that are not present in companies that do not have a capital structure similar to ours.

Certain provisions of our Amended Charter and bylaws may discourage, delay, or prevent a change in control of the Company that a stockholder may consider favorable.

These provisions include:

- authorizing a capital structure with multiple classes of common stock: a Class A common stock and Class B common stock;
- classifying our Board with staggered three-year terms, which may lengthen the time required to gain control of our Board;
- prohibiting stockholder action by written consent, thereby requiring all stockholder actions to be taken at a meeting of the stockholders;
- limiting who may call special meetings of stockholders;
- establishing advance notice requirements for nominations of candidates for election to our Board or for proposing matters that can be acted upon by stockholders at stockholder meetings;
- requiring stockholder approval by holders of at least 66 2/3% of our aggregate voting power with respect to certain extraordinary matters, such as an amendment to our Amended Charter (excluding amendments to Section 4.1 thereof) or bylaws, and the approval by holders of at least 75% of our aggregate voting power for the removal of a director; and
- the existence of authorized and unissued stock, including “blank check” preferred stock, which could be issued by our Board to persons friendly to our then current management, thereby protecting the continuity of our management, or which could be used to dilute the stock ownership of persons seeking to obtain control of the Company.

General Risk Factors

Changes in tax legislation could have an adverse impact on our cash tax liabilities, results of operations or financial condition.

Tax legislation enacted in 2017 reduced the U.S. corporate income tax rate from 35% to 21% and included certain other changes that resulted in a significant reduction of our income tax liability. Congress could, in the future, revise or repeal those changes or enact other tax law changes, such as the elimination of tax preferences currently available with respect to coal exploration and development and the percentage depletion allowance. For example, President Biden has proposed increasing the U.S. corporate income tax rate to 28%. We are unable to predict whether any such changes will ultimately be enacted, but any such changes could have a material impact on our cash tax liabilities, results of operations or financial condition.

Debt we incur in the future may limit our flexibility to obtain financing and to pursue other business opportunities.

Our future level of debt could have important consequences to us, including the following:

- our ability to obtain additional financing, if necessary, for working capital, capital expenditures or other purposes may be impaired, or such financing may not be available on favorable terms;
- our funds available for operations and future business opportunities will be reduced by that portion of our cash flow required to make interest payments on our debt;
- our ability to pay dividends if an event of default occurs and is continuing or would occur as a result of paying such dividend;
- we may be more vulnerable to competitive pressures or a downturn in our business or the economy generally; and
- our flexibility in responding to changing business and economic conditions may be limited.

Our ability to service our debt will depend upon, among other things, our future financial and operating performance, which will be affected by prevailing economic conditions and financial, business, regulatory and other factors, some of which are beyond our control. If our operating results are not sufficient to service any future indebtedness, we will be forced to take actions such as reducing or delaying our business activities, investments or capital expenditures, selling assets or issuing equity. We may not be able to affect any of these actions on satisfactory terms or at all.

The terms of the indenture governing our Senior Notes and the agreements and instruments governing our other indebtedness, including the Credit Agreement, and surety bonding obligations impose restrictions that may limit our operating and financial flexibility.

The indenture governing our Senior Notes and the agreements governing our other indebtedness, including the Credit Agreement, and surety bonding obligations contain certain restrictions and covenants which restrict our ability to incur liens and/or debt or provide guarantees in respect of obligations of any other person and other restrictions, all of which could adversely affect our ability to operate our business, as well as significantly affect our liquidity, and therefore could adversely affect our results of operations.

These covenants limit, among other things, our ability to:

- incur additional indebtedness;
- pay dividends on or make distributions in respect of stock or make certain other restricted payments, such as share repurchases;
- make capital investments;
- enter into agreements that restrict distributions from certain subsidiaries;
- sell or otherwise dispose of assets;
- use for general purposes the cash received from certain allowable asset sales or disposals;

- enter into transactions with affiliates;
- create or incur liens;
- merge, consolidate or sell all or substantially all of our assets; and
- receive dividends or other payments from subsidiaries in certain cases.

Our ability to comply with these covenants may be affected by events beyond our control and we may need to refinance existing debt in the future. A breach of any of the covenants under the indenture together with the expiration of any cure period, if applicable, could result in a default under our indenture. If any such default occurs, subject to applicable grace periods, the holders of our Senior Note may elect to declare all outstanding Senior Notes, together with accrued interest and other amounts payable thereunder, to be immediately due and payable. If the obligations under our Senior Notes were to be accelerated, our financial resources may be insufficient to repay the Senior Notes and any other indebtedness becoming due in full.

In addition, if we breach the covenants in the indenture governing the Senior Notes and do not cure such breach within the applicable time periods specified therein, we would cause an event of default under the indenture governing the Senior Notes and a cross-default to certain of our other indebtedness and the lenders or holders thereunder could accelerate their obligations. If our indebtedness is accelerated, we may not be able to repay our indebtedness or borrow sufficient funds to refinance it. Even if we are able to obtain new financing, it may not be on commercially reasonable terms or on terms that are acceptable to us. If our indebtedness is in default for any reason, our business, financial condition and results of operations could be materially and adversely affected. In addition, complying with these covenants may make it more difficult for us to successfully execute our business strategy and compete against companies who are not subject to such restrictions.

The number and quantity of viable financing and insurance alternatives available to us may be significantly impacted by unfavorable lending and investment policies by financial institutions and insurance companies associated with concerns about environmental impacts of coal combustion, and negative views around our efforts with respect to environmental and social matters and related governance considerations could harm the perception of our company by a significant number of investors or result in the exclusion of our securities from consideration by those investors.

Certain banks, other financing sources and insurance companies have taken actions to limit available financing and insurance coverage for the development of new coal-fueled power plants and coal producers and utilities that derive a majority of their revenue from coal, and particularly from thermal coal. This may adversely impact the future global demand for coal. Increasingly, the actions of such financial institutions and insurance companies are informed by non-standardized “sustainability” scores, ratings and benchmarking studies provided by various organizations that assess environmental, social and governance matters. Further, there have been efforts in recent years by members of the general financial and investment communities, including investment advisors, sovereign wealth funds, public pension funds, universities and other institutional investors, to divest themselves and to promote the divestment of securities issued by companies involved in the fossil fuel extraction market, or that have low ratings or scores in studies and assessments of the type noted above, including coal producers. These entities also have been pressuring lenders to limit financing available to such companies. These efforts may have adverse consequences, including, but not limited to:

- restricting our ability to access capital and financial markets in the future;
- reducing the demand and price for our equity securities;
- increasing the cost of borrowing;
- causing a decline in our credit ratings;
- reducing the availability, and/or increasing the cost of, third-party insurance;
- increasing our retention of risk through self-insurance;
- making it more difficult to obtain surety bonds, letters of credit, bank guarantees or other financing; and
- limiting our flexibility in business development activities such as mergers, acquisitions and divestitures.

If securities or industry analysts adversely change their recommendations regarding our stock or if our operating results do not meet their expectations, our stock price could decline.

The trading market for our common stock could be influenced by the research and reports that industry or securities analysts may publish about us or our business. If one or more of these analysts cease coverage of our company or fail to publish reports on us regularly, we could lose visibility in the financial markets, which in turn could cause our stock price or trading volume to decline. Moreover, if one or more of the analysts who cover our company downgrade our stock or if our operating results do not meet their expectations, our stock price could decline.

Our ability to operate effectively could be impaired if we fail to attract and retain key personnel.

The loss of our senior executives could have a material adverse effect on our business. There may be a limited number of persons with the requisite experience and skills to serve in our senior management positions. We may not be able to locate or employ qualified executives on acceptable terms. In addition, as our business develops and expands, we believe that our future success will depend greatly on our continued ability to attract and retain highly skilled personnel with coal industry experience. We may not be able to continue to employ key personnel or attract and retain qualified personnel in the future. Our failure to retain or attract key personnel could have a material adverse effect on our ability to effectively operate our business.

We could fail to retain customers or gain new ones.

The failure to obtain additional customers or the loss of all or a portion of the revenues attributable to any customer as a result of competition, creditworthiness, inability to negotiate extensions or replacement of contracts or otherwise, could have a material adverse effect on our business, financial condition, results of operations, cash flows and ability to pay dividends to our stockholders.

Terrorist attacks or cyber-incidents could result in information theft, data corruption, operational disruption and/or financial loss.

Like most companies, we have become increasingly dependent upon digital technologies, including information systems, infrastructure and cloud applications and services, to operate our businesses, process and record financial and operating data, communicate with our business partners, analyze mine and mining information, estimate quantities of coal reserves, as well as other activities related to our businesses. Strategic targets, such as energy-related assets, may be at greater risk of future terrorist or cyber-attacks than other targets in the United States. Deliberate attacks on, or security breaches in, our systems or infrastructure, or the systems or infrastructure of third parties, including systems that collect, organize, store or use personal data, or cloud-based applications could lead to corruption or loss of our proprietary data and potentially sensitive data, delays in production or delivery, difficulty in completing and settling transactions, challenges in maintaining our books and records, environmental damage, communication interruptions, other operational disruptions and third-party liability. Due to the nature of cyber-attacks, breaches to our or our service or equipment providers' systems could go unnoticed for a prolonged period of time. Our insurance may not protect us against such occurrences. Consequently, it is possible that any of these occurrences, or a combination of them, could have a material adverse effect on our business, reputation, financial condition, results of operations and cash flows. Further, as cyber incidents continue to evolve, we may be required to expend additional resources to continue to modify or enhance our protective measures or to investigate and remediate any vulnerability to cyber incidents.

Failure to adequately protect critical data and technology systems and the impact of data privacy regulation could materially affect us.

Information technology solution failures, network disruptions and breaches of data security could disrupt our operations by causing delays or canceling or impeding processing of transactions and reporting financial results, resulting in the unintentional disclosure of employee, royalty owner, or other third party or our confidential information, or damage to our reputation. There can be no assurance that a system failure or data security breach will not have a material adverse effect on our operations, financial condition, results of operations or cash flows. In addition, new laws and regulations governing data privacy and the unauthorized disclosure of confidential information pose increasingly

complex compliance challenges and potentially elevate costs, and any failure to comply with these laws and regulations (or contractual provisions requiring similar compliance) could result in significant penalties and legal liability, require us to change our business practices, increase the costs and complexity of compliance, and adversely affect our business. As noted above, we are also subject to the possibility of cyber incidents or attacks, which themselves may result in a violation of these laws or may result in significant expense.

We may be subject to litigation, the disposition of which could negatively affect our profitability and cash flow in a particular period, or have a material adverse effect on our business, financial condition and results of operations

Our profitability or cash flow in a particular period could be affected by an adverse ruling in any litigation that may be filed against us in the future. In addition, such litigation could have a material adverse effect on our business, financial condition and results of operations. See “Part I, Item 3. Legal Proceedings.”

Item 1B. Unresolved Staff Comments

None.

Item 1C. Cybersecurity

As discussed earlier under *General Risk Factors*, we have become increasingly dependent upon technology, including information systems as well as infrastructure and cloud applications and services. These technologies are used to operate our businesses, process and record financial and operating data, communicate with our business partners, analyze mining information, estimate quantities of coal reserves, and perform other activities related to our business.

Ramaco uses third parties to manage its information technology (“IT”) infrastructure. The Company’s process for assessing, identifying, and managing material cybersecurity risks includes the following activities, all of which are performed or assisted by third parties with considerable experience providing managed IT and security services or IT assurance services:

- Assessment of cybersecurity risks, using the National Institute of Standards and Technology Cybersecurity Framework as a guide, as part of the overall IT risk assessment performed annually;
- Network operations center monitoring to establish baseline metrics and assist with anomaly detection;
- Periodic vulnerability scanning;
- Configuration of firewall, antivirus, and malware protection as well as alert thresholds;
- Generation of system audit logs and recovery backups;
- Preparation of an incident response plan and assignment of team members;
- Logical access security reviews for applications and data protection; and
- Awareness training for employees on cybersecurity threats and safe practices.

The Company also uses applications hosted by a reputable third party that are critical to managing Ramaco’s business and financial records. The process to oversee and identify cyber risks associated with the third-party service provider involves reviewing its annual System and Organization Controls 2 (“SOC 2”), Type 2 Report as well as conducting recurring status meetings with the third party.

The responsibility for managing and assessing material risks from cybersecurity threats lies with the Company’s IT Steering Committee, which is made up of five members of senior management having legal or corporate finance backgrounds. The committee also includes one lead representative of the third-party IT management and security service providers utilized by the Company to mitigate cybersecurity risks as discussed above. The IT Steering Committee met at least on a quarterly basis during 2023 and intends to meet monthly going forward. Information regarding cybersecurity risks and mitigation efforts is reported periodically by the IT Steering Committee to the Company’s chief executive officer, chief financial officer, and Audit Committee. The Audit Committee is primarily responsible for the Board of Directors’ oversight of cybersecurity risks.

We have not experienced any cybersecurity incidents to date that have materially affected, or are reasonably likely to materially affect, the Company's business strategy, results of operations, or financial condition. However, cybersecurity threats are constantly evolving, and we may not be successful in preventing or mitigating a cybersecurity incident despite our efforts to protect against such risks. A successful cyberattack could lead to theft of sensitive information, ransomware, destruction of data, or other issues causing financial, legal, or reputational damage. These events are reasonably likely to materially affect us, including our business strategy, results of operations, or financial condition, should they occur.

Item 2. Properties

Summary Overview of Mining Operations

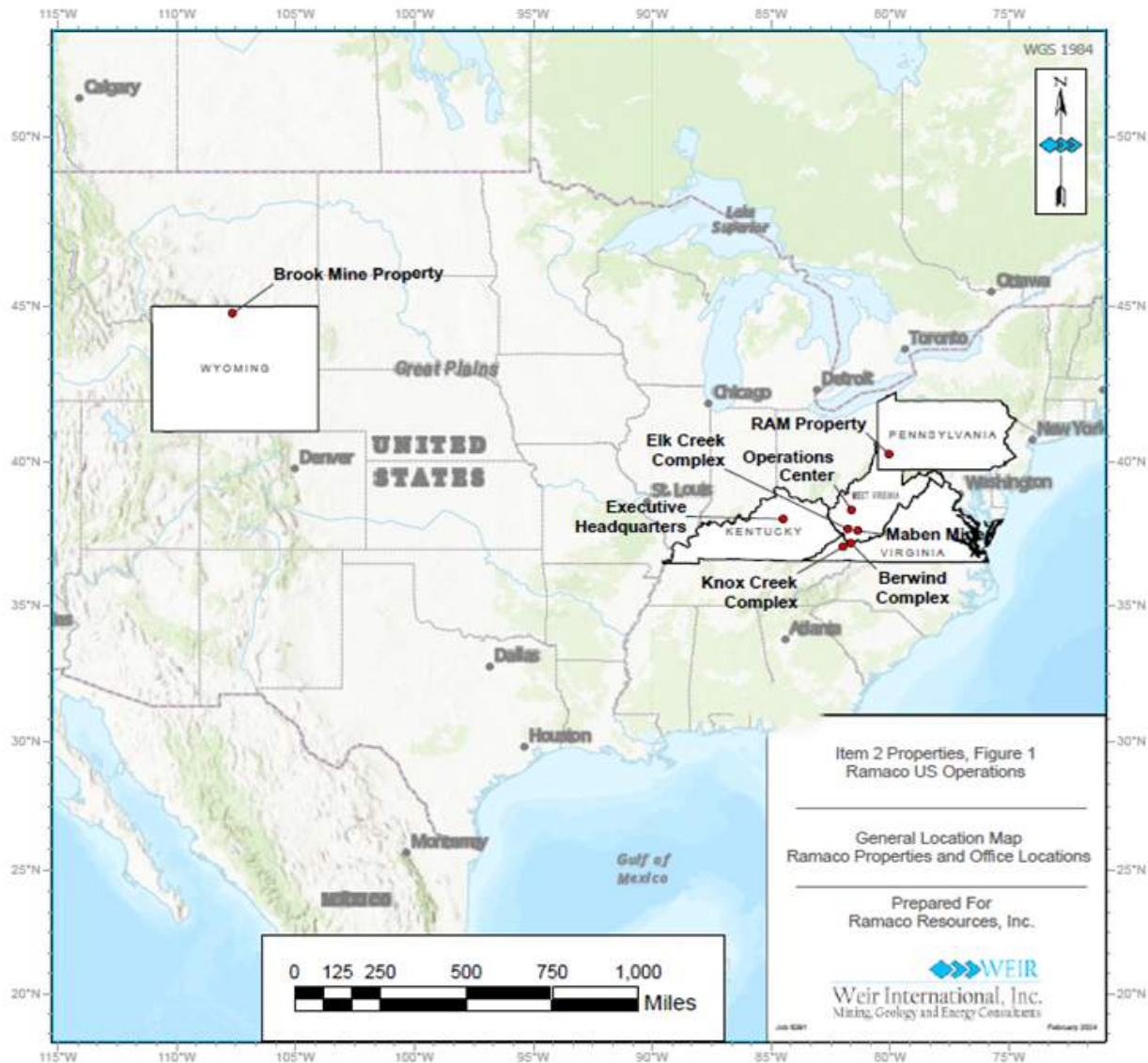
Information concerning our mining properties in this Annual Report has been prepared in accordance with the requirements of subpart 1300 of Regulation S-K, which requires us to disclose our mineral resources, in addition to our mineral reserves, as of the end of our most recently completed fiscal year both in the aggregate and for each of our individually material mining properties.

As used in this Annual Report, the terms "mineral resource," "measured mineral resource," "indicated mineral resource," "inferred mineral resource," "mineral reserve," "proven mineral reserve" and "probable mineral reserve" are defined and used in accordance with subpart 1300 of Regulation S-K. Under subpart 1300 of Regulation S-K, mineral resources may not be classified as "mineral reserves" unless the determination has been made by a qualified person that the indicated and measured mineral resources can be the basis of an economically viable project. You are specifically cautioned not to assume that any part or all of the mineral resources will ever be converted into mineral reserves, as defined by the SEC. See "Item 1A "Risk Factors"

You are cautioned that, except for that portion of mineral resources classified as mineral reserves, mineral resources do not have demonstrated economic value. Inferred mineral resources are estimates based on limited geological evidence and sampling and have a too high of a degree of uncertainty as to their existence to apply relevant technical and economic factors likely to influence the prospects of economic extraction in a manner useful for evaluation of economic viability. Estimates of inferred mineral resources may not be converted to a mineral reserve. It cannot be assumed that all or any part of an inferred mineral resource will ever be upgraded to a higher category. A significant amount of exploration must be completed in order to determine whether an inferred mineral resource may be upgraded to a higher category. Therefore, you are cautioned not to assume that all or any part of an inferred mineral resource exists, that it can be the basis of an economically viable project, or that it will ever be upgraded to a higher category. Likewise, you are cautioned not to assume that all or any part of measured or indicated mineral resources will ever be converted to mineral reserves. See "Item 1A "Risk Factors"

The information that follows relating to the Elk Creek Complex, Berwind Complex, and Knox Creek Complex is derived, for the most part, from, and in some instances is an extract from, the technical report summaries ("TRS") relating to such properties prepared in compliance with the Item 601(b)(96) and subpart 1300 of Regulation S-K. Portions of the following information are based on assumptions, qualifications and procedures that are not fully described herein. Reference should be made to the full text of the TRSs, incorporated herein by reference and made a part of this Annual Report.

Item 2 Properties, Figure 1 below shows the location of our mining properties and offices as of December 31, 2023:



At December 31, 2023, we had five mining properties, as summarized in the table below (tons produced in 000s), excluding the Brook Mine property:

	Location	Controlled		Stage	Clean Tons	Clean Tons	Clean Tons	Mine Type	Quality	Processing Facilities - Transportation
		Acres	Yrs		Produced 2021	Produced 2022	Produced 2023			
Elk Creek Complex	Logan, Wyoming, and Mingo Counties, WV	20,200	20+	Production	1,981	2,033	2,031	Underground, Highwall, Surface	High Volatile A, A/B, B	Elk Creek Preparation Plant - CSX RR, Truck
Berwind Complex	McDowell County, WV, Buchanan and Tazewell Counties, VA	62,500	20+	Production	180	416	601	Underground, Highwall, Surface	Low and Mid Volatile	Berwind Preparation Plant - Truck, Norfolk Southern RR
Knox Creek Complex	McDowell County, WV, Buchanan, Russell, and Tazewell Counties, VA	64,050	15	Production	45	235	370	Underground, Highwall, Surface	Mid and High Volatile A	Knox Creek Preparation Plant - Truck, Norfolk Southern RR
Maben Complex	Wyoming and Raleigh Counties, WV	28,000	18	Production	—	—	172	Underground, Highwall, Surface	Low Volatile	Berwind Preparation Plant - Truck, Norfolk Southern RR
RAM Mine	Washington County, PA	1,567	n/a	Commercial Development or Other	—	—	—	Underground	High Volatile C	Truck, Barge
Total		<u>176,317</u>			<u>2,206</u>	<u>2,684</u>	<u>3,174</u>			

At December 31, 2023, we owned or controlled, primarily through long-term leases, approximately 174,750 acres of coal in Virginia and West Virginia and 1,567 acres of coal in Pennsylvania. The aggregate annual production for our properties during the three most recently completed fiscal years are as follows: 3.2 million tons for fiscal year 2023, 2.7 million tons for fiscal year 2022, and 2.2 million tons for fiscal year 2021. Our preparation plants and loadout facilities are located on properties owned by us or held under leases which expire at varying dates over the next 30 years. Most of the leases contain options to renew. Many of these leases provide for a royalty payment to the lessor based on a specific price per ton of coal extracted or as a percentage of coal sales revenue. We believe that all of our leases were entered into at market terms.

The Company leases office space in Lexington, Kentucky that serves as its executive headquarters. In addition, the Company owns office space in Charleston, West Virginia that serves as an operations center. The Company also owns offices in Sheridan, Wyoming. See Item 1. “Business - Our Projects” for additional information about our mining operations and CORE initiatives.

We hold numerous environmental and mineral extraction permits, water rights and other permits, licenses and approvals from governmental authorities authorizing operations at each of our facilities. With respect to each facility at which we produce coal, permits, licenses and approvals are obtained as needed in the normal course of business based on our mine plans and federal, state, and local regulatory provisions regarding mine permitting and licensing. Based on our historical permitting experience, we expect to be able to continue to obtain necessary mining permits and approvals to support historical rates of production.

We are the operators of the mining and processing operations and the mining methods we use consist of surface, underground and highwall mining methods. The mining operations for the Elk Creek, Berwind, and Knox Creek complexes are material to our business and are further described below.

Elk Creek Complex

The Elk Creek Complex is located approximately 45 miles south of Charleston, West Virginia, in Logan, Wyoming, and Mingo Counties at N 37.698718, W 81.778297. The nearest town is Man, West Virginia, which is approximately five miles to the northwest of the Elk Creek Complex. The Elk Creek Complex is within the Southern West Virginia coal field of the Central Appalachia Coal Producing Region (the “CAPP Region”) of the United States.

Companies that previously mined on the Elk Creek Complex include Island Creek Coal Company (“Island Creek”) which started mining in the area in December 1904. Consolidation Coal Company, now known as Consol Energy, Inc. (“Consol”), bought Island Creek in July 1993 and continued operations in and around the area until the late-1990s when Consol idled its Elk Creek Mine. Ramaco Coal bought the property from Consol in 2012 and started production on the Elk Creek Complex in the fourth quarter of 2016. The 2012 purchase included acquisition of rail access, permitted impoundment and coal refuse disposal facilities, as well as numerous reclaimed, but permitted deep mines. Pittston Coal Company operated mines on the northern Huff Creek portion (McDonald and Baisden properties) of the Elk Creek Complex in the 1970s and 1980s before the company exited the coal mining business in 2001.

The Elk Creek Complex consists of approximately 20,200 acres of leased coal holdings. Within the Elk Creek Complex controlled coal holdings, 16,000 acres lie in Logan County, 2,800 acres in Wyoming County and 1,400 acres in Mingo County. The Elk Creek Complex is in the production stage and currently has six active mines, three planned and permitted mines, one permitted inactive mine, and one planned but not permitted mine. The five planned and/or permitted mines include two contour surface mine developing areas for a highwall miner, and three underground room and pillar mines, which use continuous miners for mine development. Ramaco began production of metallurgical coal at the complex in 2016. A majority of the underground mines implement retreat mining, which results in mining recovery of greater than 80 percent. Contour mining has an average mining recovery of approximately 90 percent, and the highwall mines have an average mining recovery of approximately 40 percent.

The Elk Creek Complex is mining several seams and seam splits, including the Chilton A, Upper Dorothy, Upper Dorothy 2, 3, and 4, Middle Dorothy, Lower Dorothy, Upper Cedar Grove, Lower Cedar Grove A, Lower Cedar Grove B, Lower Cedar Grove C, Upper Alma, Lower Alma, Powellton, Eagle, and No. 2 Gas seams, in descending stratigraphic order.

Currently, there are six active mines within the complex:

- Ram No. 1 Surface and Highwall Mine;
- Stonecoal No. 2 Alma Deep Mine;
- Rockhouse Eagle Deep Mine;
- No. 2 Gas Deep Mine;
- Michael Powellton Deep Mine; and
- Crucible Deep Mine Lower Cedar Grove B and C seams

There are three planned and permitted mines within the complex:

- Ram No. 3 Surface and Highwall Mine, scheduled for 2024 startup
- Ram No. 2 Surface and Highwall Mine (which is the extension of Ram No. 1 above), scheduled for late 2024 startup; and
- Glen Alum Tunnel #1 Deep Mine, scheduled for 2027 startup.

There are two permitted inactive mines, the Eight-Kay Deep Mine that is projected to start in 2027 as well as the Monarch Deep Mine that is scheduled to start in 2026. The Bens Creek Deep Mine is planned but is not yet permitted. The projected startup date for this mine is 2028. It is likely future mines will be planned and scheduled, as necessary, from resource areas within the complex, to meet internal Ramaco production goals aligned with market conditions. With the exception of the Ram No. 3 mine, all planned mines are subject to future Board approval.

The current Elk Creek Complex Life-of-Mine (“LOM”) Plan projects mining through 2040; an expected mine life for the complex of 17 years.

All Run-of-Mine (“ROM”) coal is washed at the Elk Creek Preparation Plant. The Elk Creek Preparation Plant, built in 2017 by Raw Resources Group located in Princeton, West Virginia, is a well designed and constructed preparation plant, with ROM processing capacity of 700 tons per hour. During 2022, we began work on a throughput upgrade at our Elk Creek Preparation plant. We completed the expansion in 2023, which raised the nameplate processing capacity to 1,050 raw tons per hour and our annual processing capacity from this complex to approximately three million tons per year.

We also began development work on additional low-cost, high-volatile underground and surface mines at Elk Creek. These mines began production during the second quarter of 2022 and reached full levels of productivity during 2023. Production increased at Elk Creek during 2023 commensurate with the increase in processing capacity discussed above.

The gross book value of the Elk Creek Complex property and its associated plant and equipment was \$269 million as of December 31, 2023. The Elk Creek Complex utilizes industry standard, modern surface and underground mining equipment, processing equipment and infrastructure that is in good operating condition and capable of meeting planned production requirements using prudent operating methods and operating schedules.

The Elk Creek Complex produces high-quality, high-volatile metallurgical coal. Historically, the market for metallurgical coal from the Elk Creek Complex has been domestic metallurgical coal consumers and the global seaborne metallurgical coal market. Coal produced from the complex is primarily high-volatile A and high-volatile B metallurgical coal. The Elk Creek Complex also produces thermal coal and specialty coals, which represent approximately five percent of sales.

Volatiles refers to the volatile matter contained in the coal. Classification of coal as low, mid or high-volatile refers to the specific volatile content within the coal, with coals of 17% to 22% volatile matter being classified as low-volatile, 23% to 31% as mid-volatile and 32% or greater as high-volatile. The volatile matter in coal impacts coke yield (i.e. the amount of coke and coke by-products produced per ton of coal charged). Low-volatile coal contains more carbon, but too much carbon can result in coke oven damage. Too much volatile matter results in less carbon and reduces the volume of coke produced. Therefore, coke producers use blends of high-volatile and low-volatile coals for coke production.

We are unaware of any significant encumbrances to the Elk Creek Complex, including current and future permitting requirements and associated timelines, permit conditions, and violations and fines.

Berwind Complex

The Berwind Complex is located approximately 80 miles south of Charleston, West Virginia; 100 miles west of Roanoke, Virginia; 60 miles northeast of Kingsport, Tennessee; and 160 miles east/southeast of Lexington, Kentucky at N 37.164522, W 81.744893. The complex includes areas in Buchanan and Tazewell Counties, Virginia and McDowell County, West Virginia. The Berwind Complex is within the Southwestern Virginia and Southern West Virginia coal fields of the CAPP Region of the United States.

The Berwind Complex and surrounding area have an extensive history of coal mining, primarily by underground mining methods. Mining within the Berwind/Knox Creek Complex likely began in the early-1900s and there have been many different mine operators both large and small in the region since then.

The Berwind Property consists of approximately 62,500 acres of leased coal holdings located in McDowell County, West Virginia and Buchanan and Tazewell Counties, Virginia. Ramaco obtained its initial lease for this property in 2015 and commenced mine operations in 2017. The Berwind Complex is in the production stage and currently has three active mines. The three mines that were active at December 31, 2023 are underground room and pillar mines, which use continuous miners for mine development.

Ramaco started operations at the Berwind Pocahontas 4 Deep Mine in 2017 and idled the mine in mid-July 2022 due to an ignition that an investigation by the Mine Safety and Health Administration (MSHA) suggests was

caused by lightning that struck a pilot hole for a new shaft. Production at the Berwind No. 1 Deep Mine restarted in the first quarter of 2023.

A majority of the underground mines implement retreat mining, which typically results in mining recovery of greater than 80 percent. Contour mining has an average mining recovery of approximately 90 percent, and the highwall mine has an average mining recovery of approximately 40 percent.

The Berwind Complex is mining several seams and seam splits, including the Pocahontas 6, Pocahontas 5, Pocahontas 4 and Pocahontas 3 seams, in descending stratigraphic order.

Active Mines:

- Laurel Fork Pocahontas 3 Deep Mine
- Triad No. 2 Deep Mine
- Berwind No. 1 Pocahontas 4 Deep Mine

Permitted Mines:

- Squire Jim No. 1 Deep Mine, permitted but not planned for startup

The current Berwind Complex Life-of-Mine (LOM) Plan projects mining through 2049, an expected mine life for the complex of 20+ years. However, it is likely future mines will be planned and scheduled, as necessary, from resource areas within the complex, to meet internal Ramaco production goals aligned with market conditions.

All Run-of-Mine (ROM) coal is washed at the Berwind Preparation Plant with no planned direct shipment coal. The Berwind Preparation Plant was initially built in 1955 and commissioned in 1957. Ramaco refurbished the preparation plant in 2021 and 2022 based on a design by Ramsey Industrial, with a current ROM processing capacity of 600 tons per hour.

The gross book value of the Berwind Complex property and its associated plant and equipment was \$155 million as of December 31, 2023. The Berwind Complex utilizes industry standard, modern surface and underground mining equipment, processing equipment and infrastructure that is in good operating condition and capable of meeting planned production requirements using prudent operating methods and operating schedules.

The Berwind Complex produces high-quality, mid and low-volatile metallurgical coal. Historically, the market for metallurgical coal from the Berwind Complex has been for both domestic metallurgical coal consumers and the global seaborne metallurgical coal market.

We are unaware of any significant encumbrances to the Berwind Complex, including current and future permitting requirements and associated timelines, permit conditions, and violations and fines.

Knox Creek Complex

The Knox Creek Complex consists of two general properties or areas as follows:

- Big Creek Property; and
- Knox Creek Property

The Knox Creek Complex is located approximately 80 miles south of Charleston, West Virginia; 100 miles west of Roanoke, Virginia; 60 miles northeast of Kingsport, Tennessee; and 160 miles east/southeast of Lexington, Kentucky at N 37.164522, W 81.744893. The complex includes areas in Buchanan, Russell and Tazewell Counties, Virginia and McDowell County, West Virginia. The Knox Creek Complex is within the Southwestern Virginia and Southern West Virginia coal fields of the CAPP Region of the United States.

The Knox Creek Complex and surrounding area have an extensive history of coal mining, primarily by underground mining methods. Mining within the Knox Creek Complex likely began in the early-1900s and there have been many different mine operators both large and small in the region since then.

The Knox Creek Complex consists of approximately 64,050 acres of owned and leased coal holdings. Within the Knox Creek Complex controlled coal holdings, 5,370 acres lie in McDowell County, West Virginia. The Knox Creek Complex is in the production stage and currently has two active mines and two planned and permitted mines. There are no active or planned West Virginia mines currently within the Knox Creek Complex. The two active mines include one contour surface mine developing areas for a highwall miner, and one underground room and pillar mine, which uses continuous miners for mine development.

Ramaco began production of metallurgical coal at the complex in 2019. The underground mines will implement retreat mining, which typically results in mining recovery of 50 to 80 percent. At the surface mine, contour mining has an average mining recovery of approximately 90 percent, and highwall mining has an average mining recovery of approximately 40 percent.

The Knox Creek Complex is mining or plans to mine several seams and seam splits, including the Jawbone, Kennedy and Tiller seams.

Active Mines:

- Big Creek Jawbone No. 1 Deep Mine
- Big Creek Surface and Highwall Mine

Planned and Permitted Mines:

- Knox Creek Tiller Deep Mine, scheduled for 2026 startup
- Kennedy No. 3 Deep Mine, scheduled for 2026 startup

The current Knox Creek Complex Life-of-Mine (LOM) Plan projects mining through 2037, an expected mine life for the complex of 15 years. It is anticipated that future mines will be planned and scheduled, as necessary, from resource areas within the complex, to meet internal Ramaco production goals aligned with market conditions. Both planned mines listed above are subject to future Board approval.

All Run-of-Mine (ROM) coal is washed at the Knox Creek Preparation Plant. The Knox Creek Preparation Plant, built in 1981 by Powell Construction Company located in Johnson City, Tennessee, is a well designed and constructed preparation plant, with ROM processing capacity of 750 tons per hour.

The gross book value of the Knox Creek Complex property and its associated plant and equipment was \$47 million as of December 31, 2023. The Knox Creek Complex utilizes industry standard, modern surface and underground mining equipment, processing equipment and infrastructure that is in good operating condition and capable of meeting planned production requirements using prudent operating methods and operating schedules.

The Knox Creek Complex produces high-quality, mid and high-volatile metallurgical coal. Historically, the market for metallurgical coal from the Knox Creek Complex has included both domestic metallurgical coal consumers and the global seaborne metallurgical coal market. The Knox Creek Complex also sporadically produces a minimal quantity of thermal coal from the surface mine from oxidized zones.

We are unaware of any significant encumbrances to the Knox Creek Complex, including current and future permitting requirements and associated timelines, permit conditions, and violations and fines.

Other Properties

Refer to the discussion of our *Maben Complex* and our *RAM Mine* under Item 1. “Business - Our Projects” for information about these properties, which are not included in the disclosures of mineral resources and reserves at December 31, 2023 to follow. Additional information regarding the acquisition of Maben can be found in Part II, Item 8, Note 4 of this report.

Summary of Mineral Resources and Reserves

Summaries of mineral resources and reserves at our material properties as of December 31, 2023, are set forth in Tables 1 and 2.

Table 1. Summary of Mineral Resources at the end of Fiscal Year ended December 31, 2023

Area	Measured Mineral Resources			Indicated Mineral Resources			Measured + Indicated Mineral Resources			Inferred Mineral Resources		
	Amount (000 Tons)	Coal Quality (Dry Basis) Raw		Amount (000 Tons)	Coal Quality (Dry Basis) Raw		Amount (000 Tons)	Coal Quality (Dry Basis) Raw		Amount (000 Tons)	Coal Quality (Dry Basis) Raw	
		Ash (%)	Relative Density (Lbs./Cu.Ft.)		Ash (%)	Relative Density (Lbs./Cu.Ft.)		Ash (%)	Relative Density (Lbs./Cu.Ft.)		Ash (%)	Relative Density (Lbs./Cu.Ft.)
Berwind Complex	558,581	20.41	91.06	70,375	20.41	91.06	628,956	20.41	91.06	4,495	20.41	91.06
Knox Creek Complex												
Big Creek Property	35,021	14.10	91.42	—	—	—	35,021	14.10	91.42	—	—	—
Knox Creek Property	234,093	13.62	87.77	6,580	13.62	87.77	240,673	13.62	87.77	—	—	—
Elk Creek Complex												
Ram Surface	96,776	15.42	88.42	12,626	15.42	88.42	109,402	15.42	88.42	—	—	—
Crucible Deep	2,285	8.74	84.04	730	8.74	84.04	3,015	8.74	84.04	—	—	—
Stonecoal No. 2												
Alma Deep Mine	19,928	14.32	86.83	3,041	14.32	86.83	22,969	14.32	86.83	—	—	—
Rockhouse Eagle												
Deep Mine	4,065	19.62	89.07	35	19.62	89.07	4,100	19.62	89.07	—	—	—
Moorfork Mine	2,390	15.49	82.24	360	15.49	82.24	2,750	15.49	82.24	—	—	—
Bens Creek Deep												
Mine	15,510	25.83	93.81	24,425	25.83	93.81	39,935	25.83	93.81	—	—	—
Lower War Eagle	4,965	21.76	90.64	2,870	21.76	90.64	7,835	21.76	90.64	70	21.76	90.64
Glen Alum Tunnel												
#1 Deep Mine	9,295	4.80	81.13	10,855	4.80	81.13	20,150	4.80	81.13	815	4.80	81.13
Gilbert Deep Mine	2,085	23.56	92.66	2,565	23.56	92.66	4,650	23.56	92.66	85	23.56	92.66
Grand Total	984,994			134,462			1,119,456			5,465		

Notes:

- Mineral Resources reported above are not Mineral Reserves and do not meet the threshold for reserve modifying factors, such as estimated economic viability, that would allow for conversion to mineral reserves. There is no certainty that any part of the Mineral Resources estimated will be converted into Mineral Reserves. Mineral Resources reported here are exclusive of Mineral Reserves.
- Numbers in the table have been rounded to reflect the accuracy of the estimate and may not sum due to rounding.

Table 2. Summary of Mineral Reserves at the end of Fiscal Year ended December 31, 2023

Area	Proven Mineral Reserves			Probable Mineral Reserves			Proven + Probable Mineral Reserves		
	Coal Quality (Dry Basis)			Coal Quality (Dry Basis)			Coal Quality (Dry Basis)		
	Raw			Raw			Raw		
	Amount (000 Tons)	Ash (%)	Relative Density (Lbs./Cu.Ft.)	Amount (000 Tons)	Ash (%)	Relative Density (Lbs./Cu.Ft.)	Amount (000 Tons)	Ash (%)	Relative Density (Lbs./Cu.Ft.)
Berwind Complex									
Berwind No. 1 Deep Mine	16,645	23.70	92.82	26	23.70	92.82	16,671	23.70	92.82
Laurel Fork Deep Mine	6,015	10.60	84.32	22	10.60	84.32	6,037	10.60	84.32
Triple S Highwall Mine	141	11.10	84.89	37	11.10	84.89	178	11.10	84.89
Triad No. 2 Deep Mine	129	40.10	103.02	—	—	—	129	40.10	103.02
Knox Creek Complex									
Big Creek Surface and Highwall Mine	132	19.00	89.72	—	—	—	132	19.00	89.72
Big Creek Jawbone 1 Deep Mine	396	30.60	97.38	—	—	—	396	30.60	97.38
Knox Creek Tiller Deep Mine	6,362	16.10	88.05	—	—	—	6,362	16.10	88.05
Kennedy No. 3 Deep Mine	720	13.60	86.48	—	—	—	720	13.60	86.48
Elk Creek Complex									
Ram Surface and Highwall Mine	1,220	17.68	88.72	10	17.68	88.72	1,230	17.68	88.72
Ram Surface 3 and Highwall Mine	2,760	15.79	87.83	440	15.79	87.83	3,200	15.79	87.83
Crucible Deep	3,908	10.38	84.11	645	10.38	84.11	4,553	10.38	84.11
Stonecoal No. 2 Alma Deep Mine	4,535	24.32	88.49	60	24.32	88.49	4,595	24.32	88.49
Michael Powellton Mine	971	40.70	103.20	56	40.70	103.20	1,027	40.70	103.20
Rockhouse Eagle Deep Mine	1,426	15.79	87.45	495	15.79	87.45	1,921	15.79	87.45
No. 2 Gas Deep Mine	3,623	22.30	91.40	112	22.30	91.40	3,735	22.30	91.40
Eight-Kay	1,390	12.32	85.73	240	12.32	85.73	1,630	12.32	85.73
Bens Creek Deep Mine	1,670	28.56	95.84	170	28.56	95.84	1,840	28.56	95.84
Glen Alum Tunnel #1 Deep Mine	2,380	5.94	81.78	2,190	5.94	81.78	4,570	5.94	81.78
Grand Total	54,423			4,503			58,926		

Notes:

- Clean recoverable reserve tonnage based on underground mining recovery of 50 to 80 percent (contingent upon retreat mining capability), 90 percent for surface mining, 40 percent for highwall mining, theoretical preparation plant yield, and a 95 percent preparation plant efficiency.
- Numbers in the table have been rounded to reflect the accuracy of the estimate and may not sum due to rounding.
- Mineral Reserves are reported exclusive of Mineral Resources.

Our coal resource and reserve estimates at December 31, 2023, were prepared by a qualified person (“QP”) and have a basis in periodic, historical reserve studies completed by third-party geological engineering firms. Our coal resource and reserve estimates are based on data obtained from our drilling activities and other available geologic data. Acquisitions or sales of coal properties will change these estimates. Changes in mining methods or the utilization of new technologies may increase or decrease the recovery basis for a coal seam. The most recent studies of our coal reserves for the Elk Creek Complex, Berwind Complex, and Knox Creek Complex were prepared by an independent engineering firm, Weir International, Inc. (“Weir”). In periods between third party updates, we update reserves utilizing our internal staff of engineers and geologists based on production data. We intend to continue to periodically retain outside experts to assist management with the verification of our estimates of our coal reserves going forward.

Weir prepared our reserve reporting in compliance with the Regulation S-K 1300 requirements. Weir initiated this process with us by completing a historical project review as well as its validation of our complete drill hole database. Weir validated that property control is accurately reflected in reserve modeling, verifying the latest property boundaries, including control by each seam. Weir also examined reserve boundaries to ensure agreement with mining parameters, such as minimum thickness, minimum yield and minimum inter-burden between seams. Resource classification is determined based on the expectation of our meeting these mining parameters. Weir also conducted mining integrity checks to ensure each reserve area is minable.

In determining whether our reserves meet this standard, we take into account, among other things, our potential ability to obtain a mining permit, the possible necessity of revising a mining plan, changes in estimated future costs, changes in future cash flows caused by changes in costs required to be incurred to meet regulatory requirements and obtaining or renewing mining permits, variations in quantity and quality of coal, and varying levels of demand and their effects on selling prices. Further, the economic recoverability of our reserves is based on market conditions including contracted pricing, market pricing and overall demand for our coal. Thus, the actual value at which we no longer consider our reserves to be economically recoverable varies depending on the length of time in which the specific market conditions are expected to last. We consider our reserves to be economically recoverable at a price in excess of our cash costs to mine the coal and fund our ongoing replacement capital. The reserves in this Annual Report are classified by reliability or accuracy in decreasing order of geological assurance as Proven (Measured) and Probable (Indicated).

Summaries of the mineral resources and mineral reserves as of December 31, 2023 and December 31, 2022 are shown below. Weir served as the QP and prepared the estimates of mineral resources and mineral reserves at the Berwind Complex, Knox Creek Complex, and Elk Creek Complex. Since a material change has not occurred from the last TRS filed for each complex, the previous years' TRSs have not been updated. Refer to Exhibit 96.1, 96.2, and 96.3 for access to the previous TRS for the Berwind Complex, Knox Creek Complex, and Elk Creek Complex, respectively.

	Year ended December 31, 2023		Year ended December 31, 2022	
	Measured + Indicated In-Place Resources	Proven + Probable Clean Recoverable Reserves	Measured + Indicated In-Place Resources	Proven + Probable Clean Recoverable Reserves
<i>(in millions)</i>				
Area				
Berwind Complex	629	23	629	24
Knox Creek Complex	275	8	301	8
Elk Creek Complex	215	28	215	30
RAM Mine	—	—	11	—
Total	<u>1,119</u>	<u>59</u>	<u>1,156</u>	<u>62</u>

Estimates of coal reserves and resources are updated annually to reflect changes resulting from active mine production, mine plan modifications, property acquisitions/sales, impacts of additional exploration drilling, and any other changes that impact remaining coal reserve and resource tonnage.

The combined proven and probable reserves at the Berwind, Knox Creek and Elk Creek complexes decreased by three million tons due to 2023 production. Measured and indicated coal resources decreased by 37 million tons during 2023, approximately 25 million tons were due to property control changes (assignment of coal leases) at the Knox Creek Complex and 11 million tons were due to the permit denial at the RAM mine and our decision not to pursue an appeal.

Key assumptions and parameters relating to the mineral resources and mineral reserves are discussed in sections 11 and 12, respectively, of each TRS.

Exploration Target

Brook Mine is an exploration property that includes three drillhole programs involving a total of 123 new core drillholes. Specifically, targeting REEs has been completed within the current Brook Mine permit area. So far, the results of these drilling programs indicate elevated levels of REEs, along with significant concentrations of other critical elements such as Yttrium, Gallium, and Germanium. Work is ongoing to evaluate the potential exploitation of these minerals within the current Brook Mine permit area.

There has been insufficient exploration of the Brook Mine to estimate a mineral resource and it is unclear, at present, whether further exploration will result in the estimation of a mineral resource. The exploration target therefore does not represent, and should not be construed to be, an estimate of a mineral resource or mineral reserve as such terms are used in subpart 1300 of Regulation S-K.

Internal Controls

In our exploration and mineral resource and reserve estimation efforts, we utilize a certified American National Standards Institute third-party laboratory, which has in-house quality control and assurance procedures. Once in possession of the samples, the laboratory standard sample preparation and security procedures are followed. After the sample has been tested, reviewed, and accepted, the disposal of the sample is done in accordance with local, state and EPA approved methods.

Weir has determined the sample preparation, security and analysis procedures used for our drillhole samples meet current coal industry standards and practices for quality testing, with laboratory results suitable to use for geological modeling, mineral resource estimation and economic evaluation.

Year-end reserve estimates are and will continue to be reviewed by our Chief Executive Officer and other senior management, and revisions are communicated to our board of directors. Inaccuracies in our estimates of our coal reserves could result in decreased profitability from lower-than-expected revenue or higher-than-expected costs. Actual production recovered from identified reserve areas and properties, and revenue and expenditures associated with our mining operations, may vary materially from estimates.

Item 3. Legal Proceedings

Due to the nature of our business, we may become, from time to time, involved in routine litigation or subject to disputes or claims related to our business activities. In the opinion of our management, there are no pending litigation, disputes or claims against us which, if decided adversely, will have a material adverse effect on our financial condition, cash flows or results of operations. For a description of our legal proceedings, see “Commitments and Contingencies,” Note 10 to the Notes to Consolidated Financial Statements.

Item 4. Mine Safety Disclosures

The information concerning mine safety violations or other regulatory matters required by Section 1503(a) of the Dodd-Frank Act and Item 104 of Regulation S-K is included in Exhibit 95.1 to this Annual Report.

PART II

Item 5. Market for Registrant's Common Equity and Related Shareholder Matters

On June 12, 2023, an amendment to our amended and restated certificate of incorporation was approved by shareholder vote to reclassify the Company's existing common stock as shares of Class A common stock, par value \$0.01 per share, and create a separate Class B common stock having a par value of \$0.01 per share.

The initial distribution of Class B common stock occurred on June 21, 2023 via a stock dividend to existing holders of common stock as of May 12, 2023. On the date of initial distribution, each holder of common stock received 0.2 shares of Class B common stock for every one share of existing common stock held on the record date.

Market Information. Our Class A and Class B common stock are listed on the NASDAQ Global Select Market under the symbols "METC" and "METCB," respectively, and our Notes are listed on the NASDAQ Global Select Market under the symbol "METCL."

Holdings. As of the close of business on February 29, 2024, there were 87 holders of record of our Class A common stock and 76 holders of record of our Class B common stock. Because many of our common shares are held by brokers and other institutions on behalf of stockholders, we are unable to estimate the total number of stockholders represented by these holders of record.

Dividends. In addition to the stock dividend discussed above, the Company declared \$27.5 million of total cash dividends during 2023, which includes \$5.6 million under the Company's single class structure, \$17.0 million to Class A shareholders, and \$3.6 million to Class B shareholders as well as \$1.2 million of forfeitable dividends subject to the vesting conditions of outstanding restricted stock units and performance stock units.

For holders of Class A common stock, including common stock reclassified to Class A common stock, cash dividends were declared quarterly in the amount of \$0.125 per share with the exception of the final quarterly dividend, which was declared in the amount of \$0.1375 per share. The Company anticipates declaring cash dividends on a quarterly basis at the newly approved amount; however, future declarations of dividends are subject to Board of Directors' approval and may be adjusted as business needs or market conditions change.

For holders of Class B common stock, cash dividends were declared in the amount of \$0.165 per share and \$0.249 per share in the third and fourth quarter, respectively. In addition, the Company declared another quarterly cash dividend in February 2024, subsequent to the date of the financial statements, in the amount of \$0.242 per share of Class B common stock. All cash dividends declared to date for Class B common stock were based on 20% of CORE royalty and infrastructure fees for the previous quarter. The Company anticipates continuing to declare quarterly cash dividends based on 20% of CORE royalty and infrastructure fees; however, future declarations of dividends are subject to the sole discretion of the Company's Board of Directors. In addition, the Board of Directors retains the power to change or add expense allocation policies related to CORE, redefine CORE assets, and redetermine CORE's per-ton usage fees at any time without shareholder approval.

In regard to stock dividends, such as the initial non-cash distribution of Class B common stock discussed above, there are currently no plans to declare additional dividends payable in stock.

Equity Compensation Plans. The Company does not have any non-stockholder approved equity compensation plans. Refer to Part II, Item 8, Note 9 for the Company's equity compensation plan information.

Stock repurchases. The Company routinely allows employees to surrender common stock that would be issuable upon the vesting or exercise of stock-based compensation awards to pay estimated taxes. The value of common stock surrendered by employees is determined based on the price of the Company's common stock at the time of relinquishment. There were no repurchases of common shares during the quarter or year ended December 31, 2023.

Item 6. [Reserved]

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion is intended to assist you in understanding our results of operations and our present financial condition and contains forward-looking statements that reflect our future plans, estimates, beliefs and expected performance. The forward-looking statements are dependent upon events, risks and uncertainties that may be outside our control. We caution you that our actual results could differ materially from those discussed in these forward-looking statements. Factors that could cause or contribute to such differences are discussed elsewhere in this Annual Report, particularly in the "Cautionary Note Regarding Forward-Looking Statements" and "Risk Factors," all of which are difficult to predict. In light of these risks, uncertainties and assumptions, the forward-looking events discussed may not occur. We do not undertake any obligation to publicly update any forward-looking statements except as otherwise required by applicable law.

Overview

Our primary source of revenue is the sale of metallurgical coal. We are a pure-play metallurgical coal company with 59 million reserve tons and 1,119 million measured and indicated resource tons of high-quality metallurgical coal. Our plan is to continue development of our existing properties and grow annual production over the next few years to approximately seven million clean tons of metallurgical coal, subject to market conditions, permitting and additional capital deployment in the medium-term. We may make acquisitions of reserves or infrastructure that continue our focus on advantaged geology and lower costs.

The overall outlook of the metallurgical coal business is dependent on a variety of factors such as pricing, regulatory uncertainties and global economic conditions. Coal consumption and production in the U.S. is driven by several market dynamics and trends including the U.S. and global economies, the U.S. dollar's strength relative to other currencies and accelerating production cuts. In addition, blast furnace steelmaking is more prevalent outside the U.S. compared to domestic steel production, which creates demand for exports of metallurgical coal.

Although conflicts overseas continue and economic growth remains uncertain in some regions of the world, supply constraints continue to support the global metallurgical coal market overall. Ongoing bans on the import of Russian coal have affected the availability of supply to certain seaborne markets as well as contributed to volatility in prices.

Metallurgical coal benchmark prices increased significantly in early 2022, but then fell throughout the rest of the year. Market pricing for 2023 was generally down from 2022 levels but remains favorable versus long-term averages. We expect metallurgical coal prices to remain volatile in the near term. In addition, we anticipate that inflation may remain high in the near term for steel prices, freight rates, labor, and materials, which would continue to negatively affect our profitability.

During 2023, we sold 3.5 million tons of coal. North American markets made up 33% of our 2023 revenues and export markets, excluding Canada, accounted for 67% of our 2023 revenues. The Company is responsible for rail and loadout costs for coal sold into export markets. During 2022, we sold 2.5 million tons of coal. North American markets made up 58% of our 2022 revenues and export markets, excluding Canada, accounted for 42% of our 2022 revenues. We purchase coal from third parties for sale for our own account from time to time; however, sales of Company-produced coal made up 95% and 98% of total sales in 2023 and 2022, respectively.

The annual contracting season with North American steel producers generally occurs in late-summer through the fall. As of December 31, 2023, we had entered into forward sales contracts with certain North American customers on a fixed price basis for 1.4 million tons of coal at an average realizable price of \$166 per ton, excluding freight. This level of pricing in 2023 is lower than the average price of \$198 per ton that was obtained during the previous contracting season for North America. This is due to a combination of factors, including changes in demand, variations in the types of coal qualities being purchased, fluctuations in steel prices, and other macroeconomic trends. The Company shifted to

more export sales in the Company's mix of revenues during 2023, which will likely continue into 2024. Export sales often contain index-based pricing and, therefore, greater volatility in pricing and revenues.

In 2023, our capital expenditures were \$82.9 million, excluding capitalized interest of \$1.1 million. In 2022, our capital expenditures were \$123.0 million, excluding cash paid for the acquisitions of Ramaco Coal and Maben Coal assets which totaled \$23.6 million as well as capitalized interest of \$1.1 million. The decrease in capital expenditures was due to the Company's progress related to strategic growth projects at our Elk Creek and Berwind mining complexes. We completed the expansion of processing capacity at the Elk Creek preparation plant in 2023, which now has an annualized processing and shipping capacity of approximately three million tons per year.

On July 10, 2022, we experienced a methane ignition at the Berwind No. 1 mine, which was one of the active mines at our Berwind mining complex. There were no personnel in the mine at the time of the incident and no injuries or fatalities occurred. The overall impact to pre-tax earnings in 2022 was immaterial except for idle mine costs of \$9.5 million recognized during the year. The Company subsequently recognized other income of \$8.1 million in 2023 related to insurance proceeds received for the event. Production from the Berwind No. 1 mine restarted in the first quarter of 2023.

As a result of the increase in capacity at the Elk Creek plant, the re-opening of the Berwind No. 1 mine described above, and the start of production at the Maben mine during 2023, the Company was producing just under an annualized four million tons per year run rate at the later part of 2023. The Company expects to produce between 4.0 million and 4.4 million tons in 2024 depending on market conditions.

On June 21, 2023, the Company distributed Class B common stock, a tracking stock, to provide existing holders of the Company's common stock an opportunity to participate directly in the financial performance of the Company's CORE assets on a stand-alone basis, separate from the Company's metallurgical coal operations. CORE assets were acquired initially by the Company as part of the Company's acquisition of Ramaco Coal in the second quarter of 2022. The financial performance of CORE assets consists of the following non-cost-bearing revenue streams based on the Company's current expectations:

- Royalty fees derived from the royalties associated with the Ramaco Coal and Amonate reserves, which we believe approximates 3% of Company-produced coal sales revenue excluding coal sales revenue from Knox Creek,
- Infrastructure fees based on \$5.00 per ton of coal processed at our preparation plants and \$2.50 per ton of loaded coal at the Company's rail load-out facilities, and
- Future income derived, if and when realized, from advanced carbon products and rare earth elements initiatives.

The Company anticipates paying a quarterly cash dividend equal to 20% of the total fees above; however, any dividend amounts declared and paid are subject to the sole discretion of the Company's Board of Directors. Dividends paid on the tracking stock allow the Company to return to Class B common stockholders a portion of the savings from royalties and infrastructure usage fees resulting from the acquisition of Ramaco Coal. In addition, the tracking stock provides an opportunity for Class B common stockholders to participate directly in the potential revenue growth associated with the development of carbon products and rare earth elements. The Company paid cash dividends on Class B common stock during the third and fourth quarter of 2023.

Separate financial statements for CORE have not been included as exhibits to this filing since CORE's financial performance and dividends will be evaluated based on non-cost-bearing revenue streams, at least initially, and other potential forms of passive income rather than reduced by allocated costs and expenses.

The Company continues to assess its potential REEs deposit in Wyoming. To date, the results of drilling programs indicate elevated levels of REEs, along with significant concentrations of other critical elements such as Yttrium, Gallium, and Germanium. The exploration target does not represent, and should not be construed to be, a mineral resource or mineral reserve as such terms are used in subpart 1300 of Regulation S-K. The Company also continues its work to advance new carbon product technologies with the goal of commercializing products that use coal in both an improved economic and environmental manner.

Results of Operations

	Years ended December 31,		
	2023	2022	2021
(In thousands, except per share amounts)			
Revenue	\$ 693,524	\$ 565,688	\$ 283,394
Costs and expenses			
Cost of sales (exclusive of items shown separately below)	493,793	332,960	195,412
Asset retirement obligations accretion	1,403	1,115	615
Depreciation, depletion, and amortization	54,252	41,194	26,205
Selling, general and administrative expenses	48,831	40,032	21,629
Total costs and expenses	598,279	415,301	243,861
Operating income	95,245	150,387	39,533
Other income (expense), net	18,321	2,637	7,429
Interest expense, net	(8,903)	(6,829)	(2,556)
Income before tax	104,663	146,195	44,406
Income tax expense	22,350	30,153	4,647
Net income	\$ 82,313	\$ 116,042	\$ 39,759
Earnings per common share			
Basic - Single class (through 6/20/2023)	\$ 0.71	\$ 2.63	\$ 0.90
Basic - Class A (6/21/2023 - 12/31/2023)	\$ 1.06	\$ —	\$ —
Total	\$ 1.77	\$ 2.63	\$ 0.90
Basic - Class B (6/21/2023 - 12/31/2023)	\$ 0.42	\$ —	\$ —
Diluted - Single class (through 6/20/23)	\$ 0.70	\$ 2.60	\$ 0.90
Diluted - Class A (6/21/2023 - 12/31/2023)	\$ 1.03	\$ —	\$ —
Total	\$ 1.73	\$ 2.60	\$ 0.90
Diluted - Class B (6/21/2023 - 12/31/2023)	\$ 0.40	\$ —	\$ —
Adjusted EBITDA	\$ 182,126	\$ 204,555	\$ 79,042

Net income and Adjusted EBITDA were lower in 2023 compared to 2022, despite the increase in sales volume, due to lower sales pricing and higher cost per ton sold in 2023. Net income and Adjusted EBITDA for 2023 benefitted from \$15.9 million of pre-tax income for proceeds received from insurance claims related to the 2022 Berwind ignition event and 2018 silo failure. Refer to *Non-GAAP Financial Measures* below for an explanation of the Company's calculation of Adjusted EBITDA.

Year Ended December 31, 2023 compared to Year Ended December 31, 2022

Revenue. Our revenue includes sales to customers of Company-produced coal as well as smaller amounts of coal purchased from third parties. We include amounts billed by us for transportation to our customers within revenue and transportation costs incurred within cost of sales.

For the year ended December 31, 2023, we had revenue of \$693.5 million from the sale of 3.5 million tons of coal. During 2022, we sold 2.5 million tons of coal for total revenue of \$565.7 million.

Coal sales information is summarized below:

(In thousands)	Year ended December 31,		
	2023	2022	Increase
Revenue:			
Company Produced			
Coal sales revenue	\$ 657,090	\$ 553,830	\$ 103,260
Tons sold	3,299	2,396	903
Company-produced revenue per ton sold (GAAP)	\$ 199	\$ 231	\$ (32)
Purchased from Third Parties			
Coal sales revenue	\$ 36,434	\$ 11,858	\$ 24,576
Tons sold	156	54	102
Purchased coal revenue per ton sold (GAAP)	\$ 234	\$ 220	\$ 14
Totals			
Coal sales revenue	\$ 693,524	\$ 565,688	\$ 127,836
Tons sold	3,455	2,450	1,005
Total revenue per ton sold (GAAP)	\$ 201	\$ 231	\$ (30)
Cost of Sales:			
Company Produced			
Cost of sales	\$ 468,992	\$ 323,550	\$ 145,442
Tons sold	3,299	2,396	903
Company-produced cost of sales per ton sold (GAAP)	\$ 142	\$ 135	\$ 7
Purchased from Third Parties			
Cost of sales	\$ 24,801	\$ 9,410	\$ 15,391
Tons sold	156	54	102
Purchased coal cost of sales per ton sold (GAAP)	\$ 159	\$ 174	\$ (15)
Totals			
Cost of sales	\$ 493,793	\$ 332,960	\$ 160,833
Tons sold	3,455	2,450	1,005
Total cost of sales per ton sold (GAAP)	\$ 143	\$ 136	\$ 7

Refer to Non-GAAP Financial Measures for supplemental calculations of revenue per ton sold (FOB mine) and cash cost per ton sold (FOB mine)

Coal sales revenue for 2023 increased 23% from 2022, which was driven by the 41% increase in tons sold. The increase in sales volume was due to greater export sales and was aided by the Company's increased capacity for production achieved during 2023. Revenue per ton sold decreased 13% from \$231 per ton in 2022 to \$201 per ton in 2023. Revenue per ton sold (FOB mine), a non-GAAP measure which excludes transportation revenues and demurrage, decreased 18% from \$207 per ton in 2022 to \$170 per ton in 2023 including company-produced coal and purchased coal. The decrease in both revenue per ton sold measures in 2023 was driven by the variability in index-based pricing for export sales.

Refer to Note 2—Summary of Significant Accounting Policies—Concentrations and Note 11—Revenues in Item 8, Part II for additional information regarding sales to customers.

Cost of sales. Our cost of sales increased 48% from 2022, which was driven by the increase in tons sold discussed above. Cost of sales per ton sold increased 5% from \$136 per ton in 2022 to \$143 per ton in 2023. Cash cost per ton sold (FOB mine), a non-GAAP measure which excludes transportation costs and idle mine costs, increased 3% from \$108 per ton in 2022 to \$111 per ton in 2023, including company-produced coal and purchased coal. The increase in both cost per ton sold measures in 2023 was primarily due to inflationary pressures on labor and supplies.

Asset retirement obligation accretion. ARO accretion was \$1.4 million for 2023 and \$1.1 million for 2022. The higher level of accretion in 2023 was driven primarily by changes in estimates of future cash flows.

Depreciation, depletion, and amortization. Depreciation, depletion, and amortization expense totaled \$54.3 million in 2023 compared to \$41.2 million in 2022. The increase in 2023 occurred across all asset classes consistent with the Company's initiative to grow production.

Selling, general and administrative expenses. Selling, general and administrative expenses were \$48.8 million for 2023 compared to \$40.0 million for 2022. The 22% increase in 2023 was primarily due to greater compensation-related expenses and headcount as well as increased spending for professional services consistent with the Company's growth efforts.

Other income (expense), net. Other income, net was \$18.3 million in 2023 compared to \$2.6 million in 2022. The activity in 2023 was related mostly to insurance proceeds received in 2023 related to the 2022 Berwind ignition event that occurred in 2022 and the silo failure that occurred in 2018. The Company received proceeds of \$17.0 million during 2023 and had accrued a recovery asset of \$1.1 million in the previous period; thus, a gain of \$15.9 million was recognized in 2023. This activity is not indicative of expected future results. The activity in 2022 was driven by the gain of \$2.1 million recognized on the sale of mineral rights.

Interest expense, net. Interest expense, net was approximately \$8.9 million in 2023 as compared to \$6.8 million in 2022. The increase in net interest expense in 2023 was primarily due to increased use of the revolving credit facility during 2023.

Income tax expense. We recognized income tax expense of \$22.4 million and \$30.2 million in 2023 and 2022, respectively. The lower amount in 2023 was largely due to the decrease in income before taxes. Refer to Note 13 to the Consolidated Financial Statements included in Item 8 of Part I in this Annual Report on Form 10-K for an explanation of differences versus the statutory rate of 21%.

Year Ended December 31, 2022 compared to Year Ended December 31, 2021

Please see Part I, Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations" in our 2022 Annual Report on Form 10-K for a discussion of the results of operation for the year ended December 31, 2022 as compared to the year ended December 31, 2021.

Non-GAAP Financial Measures

Adjusted EBITDA. Adjusted EBITDA is used as a supplemental non-GAAP financial measure by management and external users of our financial statements, such as industry analysts, investors, lenders and rating agencies. We believe Adjusted EBITDA is useful because it allows us to more effectively evaluate our operating performance.

We define Adjusted EBITDA as net income plus net interest expense; stock-based compensation; depreciation, depletion, and amortization expenses; income taxes; certain non-operating expenses (charitable contributions); and accretion of asset retirement obligations. A reconciliation of net income to Adjusted EBITDA is included below.

Adjusted EBITDA is not intended to serve as a substitute to U.S. GAAP measures of performance and may not be comparable to similarly-titled measures presented by other companies.

<i>(In thousands)</i>	Years ended December 31,		
	2023	2022	2021
Reconciliation of Net Income to Adjusted EBITDA			
Net income	\$ 82,313	\$ 116,042	\$ 39,759
Depreciation, depletion, and amortization	54,252	41,194	26,205
Interest expense, net	8,903	6,829	2,556
Income tax expense	22,350	30,153	4,647
EBITDA	167,818	194,218	73,167
Stock-based compensation	12,905	8,222	5,260
Other non-operating expenses	—	1,000	—
Accretion of asset retirement obligation	1,403	1,115	615
Adjusted EBITDA	<u>\$ 182,126</u>	<u>\$ 204,555</u>	<u>\$ 79,042</u>

Non-GAAP revenue per ton sold. Non-GAAP revenue per ton sold (FOB mine) is calculated as coal sales revenue less transportation revenues and demurrage, divided by tons sold. We believe revenue per ton (FOB mine) provides useful information to investors as it enables investors to compare revenue per ton we generate against similar measures made by other publicly-traded coal companies and more effectively monitor changes in coal prices from period to period excluding the impact of transportation costs which are beyond our control. The adjustments made to arrive at these measures are significant in understanding and assessing our financial performance. Revenue per ton sold (FOB mine) is not a measure of financial performance in accordance with U.S. GAAP and, therefore, should not be considered as a substitute to revenue under U.S. GAAP.

<i>(In thousands, except per ton amounts)</i>	Year ended December 31, 2023			Year ended December 31, 2022		
	Company Produced	Purchased Coal	Total	Company Produced	Purchased Coal	Total
Revenue	\$ 657,090	\$ 36,434	\$ 693,524	\$ 553,830	\$ 11,858	\$ 565,688
Less: Adjustments to reconcile to Non-GAAP revenue (FOB mine)						
Transportation	(100,174)	(4,723)	(104,897)	(57,299)	(813)	(58,112)
Non-GAAP revenue (FOB mine)	\$ 556,916	\$ 31,711	\$ 588,627	\$ 496,531	\$ 11,045	\$ 507,576
Tons sold	3,299	156	3,455	2,396	54	2,450
Non-GAAP revenue per ton sold (FOB mine)	\$ 169	\$ 203	\$ 170	\$ 207	\$ 203	\$ 207

Refer to coal sales information for revenue per ton sold (GAAP) calculations

Non-GAAP cash cost per ton sold. Non-GAAP cash cost per ton sold (FOB mine) is calculated as cash cost of sales less transportation costs and idle mine costs, divided by tons sold. We believe cash cost per ton sold provides useful information to investors as it enables investors to compare our cash cost per ton against similar measures made by other publicly-traded coal companies and more effectively monitor changes in coal cost from period to period excluding the impact of transportation costs which are beyond our control. The adjustments made to arrive at these measures are significant in understanding and assessing our financial performance. Cash cost per ton sold (FOB mine) is not a measure of financial performance in accordance with U.S. GAAP and, therefore, should not be considered as a substitute to cost of sales under U.S. GAAP.

	Year ended December 31, 2023			Year ended December 31, 2022		
	Company Produced	Purchased Coal	Total	Company Produced	Purchased Coal	Total
<i>(In thousands, except per ton amounts)</i>						
Cost of sales	\$ 468,992	\$ 24,801	\$ 493,793	\$ 323,550	\$ 9,410	\$ 332,960
Less: Adjustments to reconcile to Non-GAAP cash cost of sales						
Transportation costs	(101,564)	(4,175)	(105,739)	(57,300)	(813)	(58,113)
Idle mine costs	(3,978)	—	(3,978)	(9,474)	—	(9,474)
Non-GAAP cash cost of sales	\$ 363,450	\$ 20,626	\$ 384,076	\$ 256,776	\$ 8,597	\$ 265,373
Tons sold	3,299	156	3,455	2,396	54	2,450
Non-GAAP cash cost per ton sold (FOB mine)	\$ 110	\$ 132	\$ 111	\$ 107	\$ 158	\$ 108

Refer to coal sales information for cost per ton sold (GAAP) calculations

2024 Sales Commitments

As of December 31, 2023, we had entered into forward sales contracts for approximately 1.4 million tons to North American customers at an average fixed price of \$166 per ton, excluding freight, as well as roughly 2.1 million additional tons to export customers priced against various benchmark indices. The Company expects to satisfy approximately 88% of these commitments in 2024 and the remainder in 2025. Sales commitments of another 0.4 million tons were obtained subsequent to December 31, 2023 for delivery in 2024. We expect the shift to more export sales in the Company's mix of revenue that occurred in 2023 to continue during 2024, which may lead to volatility in revenues due to index-based pricing.

Liquidity and Capital Resources

Our primary source of cash is proceeds from the sale of our coal production to customers. Our primary uses of cash include the cash costs of coal production, capital expenditures, acquisitions, royalty payments, and other operating expenditures.

Cash flow information is as follows:

<i>(In thousands)</i>	Years ended December 31,		
	2023	2022	2021
Consolidated statement of cash flow data:			
Cash flows provided by operating activities	\$ 161,036	\$ 187,870	\$ 53,340
Cash flows used for investing activities	(72,211)	(145,708)	(59,613)
Cash flows (used for) provided by financing activities	(82,517)	(28,495)	22,369
Net change in cash and cash equivalents and restricted cash	\$ 6,308	\$ 13,667	\$ 16,096

Cash flows provided by operating activities during 2023 decreased \$26.8 million versus the prior year driven by lower cash earnings. Changes in operating assets and liabilities were favorable versus the prior year due to a variety of factors, most notably, variations in income tax payments as the Company received an \$11.8 million refund in 2023.

Net cash used for investing activities during 2023 decreased \$73.5 million versus the prior year primarily due to lower capital expenditures and acquisition-related activity of \$40.1 million and \$22.2 million, respectively. The decrease in capital expenditures was due to the Company's progress related to strategic growth projects at our Elk Creek and Berwind mining complexes. The strategic acquisitions Maben Coal and Ramaco Coal, as well as the concurrent sale of mineral rights, took place in 2022 and no such transactions occurred in 2023. In addition, the Company received \$11.2 million of insurance proceeds during 2023 related to property, plant, and equipment claims from the 2022 Berwind ignition event and 2018 silo failure.

Net cash used for financing activities was \$54.0 million higher in 2023 versus 2022, which was driven by greater repayment of debts and similar financings including \$25.0 million and \$9.6 million related to the Ramaco Coal and Maben Coal asset acquisitions, respectively. In addition, the Company also paid \$5.8 million more cash dividends during 2023, which was largely due to \$3.6 million of cash dividends paid on Class B common stock that was initially distributed in 2023, as part of the Company's strategy to increase value for its shareholders. The Company declared an additional quarterly cash dividend for holders of Class B common stock in February 2024, subsequent to the date of the financial statements, in the amount of \$0.242 per share of Class B common stock.

All cash dividends declared to date for Class B common stock were based on 20% of CORE royalty and infrastructure fees for the previous quarter as shown below.

<i>(In thousands)</i>	<u>Three months ended December 31, 2023</u>	<u>Three months ended September 30, 2023</u>	<u>Three months ended June 30, 2023</u>
Royalties			
Ramaco Coal	\$ 3,276	\$ 3,572	\$ 1,351
Amonate Assets	722	614	752
Other	14	13	—
Total Royalties	<u>\$ 4,012</u>	<u>\$ 4,199</u>	<u>\$ 2,103</u>
Infrastructure Fees			
Preparation Plants (Processing at \$5.00/ton)	\$ 4,432	\$ 4,521	\$ 3,433
Rail Load-outs (Loading at \$2.50/ton)	2,198	2,202	1,726
Total Infrastructure Fees (at \$7.50/ton)	<u>\$ 6,630</u>	<u>\$ 6,723</u>	<u>\$ 5,159</u>
CORE Royalty and Infrastructure Fees	<u>\$ 10,642</u>	<u>\$ 10,922</u>	<u>\$ 7,262</u>
Total Cash Available for Dividend for Class B Common Stock	<u>\$ 10,642</u>	<u>\$ 10,922</u>	<u>\$ 7,262</u>
20% of Cash Available for Dividend for Class B Common Stock	<u>\$ 2,128</u>	<u>\$ 2,184</u>	<u>\$ 1,452</u>

Restricted cash balances at December 31, 2023 and December 31, 2022 were \$0.8 million and \$0.9 million, respectively, and consisted of funds held in escrow for potential future workers' compensation claims. Restricted cash balances were included in other current assets on the consolidated balance sheets.

Please see Part I, Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations" in our 2022 Annual Report on Form 10-K for a discussion of the Company's cash flows for the year ended December 31, 2022 as compared to the year ended December 31, 2021.

Indebtedness

At December 31, 2023, we had \$91.4 million of outstanding debts, or \$90.2 million net of unamortized discounts and issuance costs. Our indebtedness was comprised of \$42.5 million of outstanding borrowings under the Revolving Credit Facility, \$34.5 million of Senior Notes (\$33.3 million net of unamortized discounts and issuance costs), \$11.4 million of unpaid financing related to the Maben Coal assets acquisition, and \$3.0 of various equipment loans. Of these amounts, \$56.5 million is expected to be repaid in 2024, including \$42.5 million of revolver borrowings that were repaid shortly after the balance sheet date using funds from current operations and \$11.4 million of acquisition financing that is contractually due in 2024. The remaining amount of \$34.9 million, or \$33.7 net of unamortized discounts and issuance costs, is mostly comprised of the Senior Notes due in 2026.

The Company's outstanding debt decreased approximately \$37.0 million in 2023 and was due primarily to the repayment of financing associated with the previous acquisitions of Ramaco Coal and Maben Coal in the amount of \$40.0 million and \$9.6 million, respectively. The Company's outstanding borrowings under the Revolving Credit Facility increased \$17.5 million compared to 2022.

The acquisition of Ramaco Coal helps to reduce royalty expenses associated with the Company's metallurgical operations in the Appalachian basin and, along with the acquisition of Maben Coal, complement our existing low-vol portfolio, both of which help achieve the Company's objective of remaining among the lowest cost producers of metallurgical coal in the U.S. In addition, the acquisition of Ramaco Coal includes potential concentrations of rare earth elements and is being used to support the Company's possible expansion into the manufacture and commercialization of advanced carbon products and materials from coal, both of which provide additional growth opportunities in the future. The financing associated with the acquisition of Ramaco Coal, which was provided by a related party, was repaid in full during 2023.

Revolver borrowings are typically used for the management of our normal operating cash position. Revolver borrowings that were outstanding at December 31, 2023 were repaid in full during January 2024.

In addition to the debts discussed above, the Company finances the payment of premiums associated with various insurance policies. The Company's liability at December 31, 2023 was \$4.0 million, which must be repaid in 2024.

The Company also has various finance leases for mining equipment, which generally include terms from three to five years. The Company's total liability for finance leases at December 31, 2023 was \$10.4 million, which includes \$5.5 million due in 2024 and \$4.9 million due thereafter.

Refer to Notes 7 and 8 to the Consolidated Financial Statements included in Item 8 of Part I in this Annual Report on Form 10-K for additional information on indebtedness and leases.

Liquidity

As of December 31, 2023, our available liquidity was \$90.6 million, comprised of \$42.0 million of cash and cash equivalents and \$48.6 million of availability under the Revolving Credit Facility for future borrowings. Total current assets were in excess of total current liabilities, which included \$42.5 million of revolver borrowings repaid in January 2024, by \$19.7 million. The Company is party to an arrangement that began in 2023 whereby our cash and cash equivalents are placed at various banks in amounts no greater than the \$250,000 FDIC-insured limit to help safeguard against potential losses in the financial sector. The Revolving Credit facility, which includes multiple lending parties and has a maturity date of February 15, 2026, provides added flexibility to the Company to pursue our strategic growth initiatives and manage our normal operating cash position as well as withstand potential changes in macroeconomic conditions.

The terms of the Revolving Credit facility include covenants limiting the ability of the Company to incur additional indebtedness, make investments or loans, incur liens, consummate mergers and similar fundamental changes, make restricted payments, and enter into transactions with affiliates. The terms of the facility also require the Company to maintain certain covenants, including fixed charge ratio and compensating balance requirements. A fixed charge coverage ratio of not less than 1.10:1.00, calculated as of the last day of each fiscal quarter, must be maintained by the Company. In addition, the Company must maintain an average daily cash balance of \$5 million, as determined on a monthly basis, in a dedicated account as well as an additional \$1 million in a separate dedicated account to assure future credit availability. At December 31, 2023, we were in compliance with all debt covenants under the Revolving Credit Facility.

Our primary use of cash includes capital expenditures for mine development, infrastructure, and equipment as well as ongoing operating expenses and repayment of financing associated with previous acquisitions. As of the date of this Annual Report, we expect to fund our capital and liquidity requirements for the next twelve months and the reasonably foreseeable future with cash on hand, borrowings under the Revolving Credit Facility, and projected cash

flows from operations. Factors that could adversely impact our future liquidity and ability to carry out our capital expenditure program include the following:

- Timely delivery of our product by rail and other transportation carriers;
- Late payments of accounts receivable by our customers;
- Cost overruns in our purchases of equipment needed to complete our mine development plans;
- Delays in completion of development of our various mines, processing plants and refuse disposal facilities, which would reduce the coal we would have available to sell and our cash flow from operations; and
- Adverse changes in the metallurgical coal markets that would reduce the expected cash flow from operations.

If future cash flows were to become insufficient to meet our liquidity needs or capital requirements, due to changes in macroeconomic conditions or otherwise, we may reduce our expected level of capital expenditures for new mine production and/or fund a portion of our capital expenditures through the issuance of debt or equity securities, new debt arrangements, or from other sources such as asset sales.

On September 1, 2023, the Company filed a shelf registration statement to sell any combination of Class A common stock, Class B common stock, preferred stock, depository shares, debt securities, warrants, and rights at an aggregate initial offering price of up to \$400.0 million, which was declared effective on September 29, 2023. However, the Company has no specific plans to raise capital at this time and no securities may be sold until a prospectus supplement describing the method and terms of any future offering is delivered.

In March 2024, Ramaco initiated actions to extend the maturity date and increase the size of its existing Revolver facility. The Company is targeting a \$200 million facility with a \$75 million accordion feature and a maturity date of five years from the closing date. The Company hopes to achieve a successful syndication of the new facility during the second quarter of 2024, which would strengthen our liquidity and provide additional flexibility in support of the Company's strategic initiatives and operations.

Working Capital

Accounts receivable were \$96.9 million at December 31, 2023, which increased \$55.7 million versus December 31, 2022 driven by the \$67.5 million increase in fourth quarter revenues. Inventories were \$37.2 million at December 31, 2023, which decreased \$7.8 million versus December 31, 2022 driven by the logistical and rail challenges we experienced in 2022. Accounts payable were \$51.6 million at December 31, 2023, up from December 31, 2022 due to increased spending.

Capital Requirements

During 2022 we spent \$123.0 million for capital additions, over 75% of which related to ongoing growth projects, including the increase in capacity to accommodate higher production levels at the Elk Creek and Berwind mining complexes. During 2023 the Company spent \$82.9 million on capital additions, a significantly lower amount versus 2022, as the Company has made substantial progress in achieving its growth initiatives.

We anticipate capital expenditures of approximately \$53-63 million in 2024, which will likely be weighted more toward maintenance capital than growth capital and development projects. The shift toward maintenance capital is due to the Company's substantial investments in growth projects in previous periods and its progress to date regarding these initiatives. Despite this shift, it should be noted that the Company entered into an agreement during February 2024 to purchase preparation plant assets for the Maben Complex at a price of \$3 million. The Company anticipates spending an additional \$8 million in capital expenditures related to the plant in 2024. These assets will be relocated to the Maben Complex and reassembled there for future use with the purpose of reducing the cost of transporting current raw coal production. These assets will also provide the Company with a preparation facility to handle additional future production from a deep mine complex at Maben should the Company decide in the future to pursue such development.

Contractual Obligations

The following table summarizes our significant contractual obligations at December 31, 2023:

(In thousands)	Payments due by period				
	Total	1 year	2 – 3 years	4 – 5 years	More than 5 years
Minimum coal lease and royalty obligations	\$ 27,195	\$ 3,358	\$ 6,486	\$ 6,316	\$ 11,035
Debt, excluding interest	91,383	56,534	34,849	—	—
Insurance financing	4,037	4,037	—	—	—
Leases	11,940	6,075	3,953	1,912	—
Take-or-pay obligations	20,237	5,612	9,000	5,625	—
Total	<u>\$ 154,792</u>	<u>\$ 75,616</u>	<u>\$ 54,288</u>	<u>\$ 13,853</u>	<u>\$ 11,035</u>

Minimum royalties represent the contractual minimum amounts to be paid monthly, quarterly or annually for the right to access mineral properties and mine certain reserves and resources. The amounts are generally recoupable against future production royalties to be paid.

Refer to the previous discussion of *Indebtedness* above for additional information regarding the Company's outstanding debt, insurance financing, and finance leases. Leases payments in the table above include payments for both financing and operating leases.

Take-or-pay obligations represent those liquidated damage obligations as determined by contract volume minimums for transportation of coal at the representative rates of transportation or a portion thereof. Additional take-or-pay commitments for the next annual period were renewed after the balance sheet date and have been excluded from the table above. These commitments are estimated at approximately \$14 million based on last year's average rate.

Asset retirement obligations have been excluded from the table above. Accounting for asset retirement obligations requires a number of estimates, including the amount and timing of payments to satisfy the obligation. The total liability recognized on the Company's balance sheet for asset retirement obligations was \$29.0 million at December 31, 2023. Refer to *Critical Accounting Policies and Estimates* below as well as Note 5 to the Consolidated Financial Statements included in Item 8 of Part I in this Annual Report on Form 10-K for additional information.

Estimated payments related to worker's compensation and occupational disease obligations have also been excluded from the table above. Refer to *Critical Accounting Policies and Estimates* below for additional information related to these obligations. Refer also to Note 6 to the Consolidated Financial Statements included in Item 8 of Part I in this Annual Report on Form 10-K for additional information related to accrued expenses and other long-term liabilities.

Off-Balance Sheet Arrangements

In the normal course of business, we are a party to certain off-balance sheet arrangements, such as bank letters of credit and performance or surety bonds. Liabilities related to these arrangements are not reflected in consolidated balance sheets, and we do not expect any material adverse effects on our financial condition, results of operations, or cash flows to result from these arrangements. We primarily use surety bonds to secure our financial obligations related to reclamation and other matters. Total surety bonds at December 31, 2023, were \$27.2 million.

Critical Accounting Policies and Estimates

The preparation of consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the amounts of revenue and expenses reported for the period then ended.

Coal Reserves. Our coal reserves and resources are generally updated on an annual basis. There are numerous uncertainties inherent in estimating quantities and values of coal reserves and resources, including many factors beyond our control. As a result, estimates of coal reserves and resources are by their nature uncertain. Information about our reserves and resources consists of estimates based on engineering, economic, and geological data assembled by third-party qualified persons. Information used to determine recoverable reserves and resources include geological conditions, historical production from the area compared with production from other producing areas, assumed effects of regulations and taxes by governmental agencies, assumptions governing future prices, and future operating costs. Each of these may in fact vary considerably from the assumptions used in estimating reserves and resources. For these reasons, estimates of economically recoverable quantities of coal attributable to a particular group of properties, and classification of these reserves and resources based on risk of recovery and estimates of future net cash flows, may vary substantially. Actual production, revenues, and expenditures with respect to reserves and resources will likely vary from estimates and these variances may be material. Variances could affect our projected future revenues and expenditures, valuation of coal reserves and resources, and amortization and depletion of mine development costs and mineral rights.

Asset Retirement Obligations. We initially recognize as a liability an asset retirement obligation, or ARO, associated with the retirement of a tangible long-lived asset in the period in which it is incurred or a reasonable estimate of fair value can be made, with an associated increase in the carrying amount of the related long-lived asset. The initially recognized asset retirement cost is amortized using the same method and useful life as the long-lived asset to which it relates. Accretion expense is recognized over time as the discounted liability is accreted to its expected settlement value. The liability is reduced as the reclamation work is performed and the related costs are applied.

Estimating the ARO requires management to make estimates and judgments regarding timing and existence of a liability, as well as what constitutes adequate restoration. Inherent in the fair value calculation are numerous assumptions and judgments including the ultimate costs, inflation factors, credit-adjusted discount rates, and the timing of the related cash flows. On at least an annual basis, we review our ARO liabilities and make necessary adjustments for significant increases in disturbed acreage, mining permit changes, significant mine plan revisions, and changes in cost estimates or timing of performance. To the extent future revisions are made to the ARO liability, a corresponding adjustment is made to the related asset.

Our ARO liabilities at December 31, 2023 were nearly flat versus December 31, 2022 as the accretion of the liability during the year and the downward revision to estimates were mostly offsetting. We lowered our inflation per year assumption from 3.75% used in 2022 to 3% in 2023 based on macroeconomic trends. If our assumptions differ from actual experience, or if changes in the regulatory environment occur, our actual cash expenditures and costs that we incur could be materially different than currently estimated.

Occupational Disease (Pneumoconiosis) Obligations. We recognize as a liability to provide for occupational illness (pneumoconiosis) benefits to eligible employees, former employees and dependents as required by the Mine Act. The occupational illness benefit obligation represents the present value of the actuarially computed liabilities for such benefits over the employees' applicable years of service.

Estimating the future occupational disease (pneumoconiosis) benefits requires management to make estimates and judgments regarding timing and existence of a liability utilizing third-party actuaries to assist in preparing what constitutes adequate liability amounts. Inherent in the calculation are numerous assumptions and judgments including the ultimate costs, mortality factors, credit-adjusted discount rates, and timing of settlement. These estimates are subject to uncertainty due to a variety of factors, including limited Ramaco-specific claim volume and future cost trends. As a result, volatility in future estimates may occur and actual costs could differ significantly from the estimated amounts.

Impairment of Long-lived Assets. We review our held-and-used long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset or asset group may not be recoverable. Assets are grouped at the lowest level for which there are identifiable cash flows that are largely independent of the cash flows of other groups of assets, which is generally at the mine level or at the mining complex level for mines that share infrastructure and/or developed access. Additional judgment may be required for development properties.

Events and circumstances that may trigger a recoverability assessment include, but are not limited to, a current expectation that a long-lived asset will be disposed of significantly before the end of its previously estimated useful life, a significant adverse change in the extent or manner in which a long-lived asset or asset group is being used or in the physical condition of the asset(s), and an accumulation of costs significantly in excess of the amount originally expected. We generally do not view short-term declines in metallurgical coal prices as a triggering event for conducting impairment tests because of historic price volatility. In addition, a temporary idling of operations at a particular mine or complex may or may not be viewed as a triggering event depending on the remaining life of the mine, the length of time the mine is expected to be idle, and the amount of incremental costs expected to resume operations.

When events or changes in circumstances occur that trigger a recoverability test, the test is performed by comparing projected undiscounted cash flows from the use and eventual disposition of an asset or asset group to its carrying amount. If the projected undiscounted cash flows are less than the carrying amount, an impairment loss is recorded for the excess of the carrying amount over the estimated fair value of the asset or asset group, if any.

We make various assumptions, including assumptions regarding future cash flows in our assessments of long-lived assets for impairment. The assumptions about future cash flows and growth rates are based on the current and long-term business plans related to the long-lived assets.

Income Taxes. We are required to estimate the amount of tax payable or refundable for the current year and the deferred income tax liabilities and assets for future consequences of events that have been reflected in our financial statements or tax returns for each tax paying jurisdiction in which we operate. This process requires management to make judgments regarding the timing and probability of the ultimate tax impact of various agreements and transactions. We initially recognize the effects of a tax position when it is more than 50% likely, based on the technical merits that the position will be sustained upon examination. Our determination of whether or not a tax position has met the recognition threshold depends on the facts, circumstances, and information available at the reporting date.

We provide for deferred income taxes for temporary differences arising from differences between the financial statement and tax basis of assets and liabilities existing at each balance sheet date using enacted tax rates. A valuation allowance may be recorded to reflect the amount of future tax benefits that management believes are not likely to be realized. The assessment takes into account expectations of future taxable income or loss, available tax planning strategies and the reversal of temporary differences. The development of these expectations involves the use of estimates such as production levels, operating profitability, timing of development activities and the cost and timing of reclamation work. If actual outcomes differ from our expectations, we may record an additional valuation allowance through income tax expense in the period such determination is made. The Company had no valuation allowance at December 31, 2023.

Actual income taxes could vary from the estimates and judgments above due to future changes in income tax law, significant changes in the jurisdictions in which we operate, our ability to generate sufficient future taxable income, or unpredicted results from the final determination of each year's liability by taxing authorities. These changes could have a significant impact on our financial position.

Recent Accounting Pronouncements. See Item 8 of Part II, "Financial Statements and Supplementary Data—Note 2—Summary of Significant Accounting Policies—Recent Accounting Pronouncements."

Item 7A. Quantitative and Qualitative Disclosure About Market Risk

In addition to the risks inherent in operations, we are exposed to financial, market, political and economic risks. The following discussion provides additional detail regarding our exposure to the risks related to changes in commodity prices, interest rates and foreign exchange rates.

Commodity Price Risk. Our primary product is metallurgical coal, which is in itself a commodity. Sales commitments in the metallurgical coal market are typically not long-term in nature. The Company's domestic sales contracts have terms of about one year and the pricing is typically fixed. Export sales have spot or term contracts, and pricing is often derived from an index. As such, we are exposed to changes in the international price of metallurgical coal.

Our sales commitments as of February 29, 2024 are as follows:

	2024	
	Volume	Average Price
North America, fixed priced	1.5	\$ 167
Seaborne, fixed priced	0.2	\$ 159
Total, fixed priced	1.7	\$ 166
Index priced	2.2	
Total committed tons	3.9	

Sales commitments of 0.4 million tons were obtained subsequent to December 31, 2023, which are included in the table above.

Sales commitments in the metallurgical coal market are typically not long-term in nature and, therefore, we are subject to fluctuations in market pricing. We expect the shift to more export sales in the Company's mix of revenue that occurred in 2023 to continue during 2024, which may lead to volatility in revenues due to index-based pricing. The Company does not currently manage this risk through the use of derivative instruments. We also have exposure to price risk for supplies that are used directly or indirectly in the normal course of production such as diesel fuel, explosives, and other items. The Company manages its risk for these items through strategic sourcing contracts in normal quantities with our suppliers.

Interest Rate Risk. We are exposed to risk from changes in interest rates; however, based on the current levels of debt and leases, the Company does not attempt to manage our exposure to interest rate fluctuations. We are not overly exposed to interest rate risk. The Company has senior unsecured notes with a face value of \$34.5 million that mature on July 30, 2026, unless redeemed prior to maturity, bearing interest at a fixed rate of 9% per annum and paid quarterly.

Some of the Company's debts may be affected by changes in benchmark interest rates, such as the Secured Overnight Financing Rate ("SOFR"). Borrowings under the Company's Revolving Credit Facility, which has a maturity date of February 15, 2026, bear interest at either a base rate plus 1.5% or the applicable SOFR plus 2%. The base rate equals the highest of the administrative agent's prime rate, the Federal Funds Effective Rate plus 0.5%, or 3%. The Company's outstanding financing related to the Maben coal acquisition, which had a balance of \$11.4 million at December 31, 2023 and is due in full in 2024, bears interest at the applicable SOFR plus 3% compounded monthly.

Foreign Exchange Rate Risk. International sales of coal are typically denominated in U.S. dollars. As a result, we do not have direct exposure to currency valuation exchange rate fluctuations. However, because our coal is sold internationally, to the extent that the U.S. dollar strengthens against the foreign currency of a customer or potential customer, we may find our coal at a price disadvantage as compared with other non-U.S. suppliers. This could lead to our receiving lower prices or being unable to compete for that specific customer's business. Consequently, currency fluctuations could adversely affect the competitiveness of our coal in international markets.

Item 8. Financial Statements and Supplementary Data

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

Report of Independent Registered Public Accounting Firm (<i>PCAOB ID 677</i>)	86
Consolidated Balance Sheets	92
Consolidated Statements of Operations	93
Consolidated Statements of Equity	94
Consolidated Statements of Cash Flows	95
Notes to Consolidated Financial Statements	96

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and
Stockholders of Ramaco Resources, Inc.
Lexington, Kentucky

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Ramaco Resources, Inc. (the "Company") as of December 31, 2023 and 2022, and the related consolidated statements of operations, equity, and cash flows for each of the years in the two-year period ended December 31, 2023, and the related notes (collectively referred to as the financial statements). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2023 and 2022, and the results of its operations and its cash flows for each of the years in the two-year period ended December 31, 2023, in conformity with accounting principles generally accepted in the United States of America.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the Company's internal control over financial reporting as of December 31, 2023, based on criteria established in *Internal Control—Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"), and our report dated March 14, 2024, expressed an adverse opinion.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws, and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Critical Audit Matter – Asset Retirement Obligation Description

At December 31, 2023, the Company's asset retirement obligation ("ARO") liabilities totaled \$29.0 million. As discussed in Note 2 and Note 5 to the financial statements, the Company estimates its ARO liabilities for final reclamation based upon detailed engineering calculations of the amount and timing of the future cash spending for a third party to perform the required work. The Company records an ARO asset associated with the discounted liability for final reclamation. The obligation and corresponding asset are recognized in the period

in which the liability is incurred. As changes in estimates occur, the revisions to the obligation and asset are recognized at the appropriate credit-adjusted, risk-free rate.

We identified the valuation of the asset retirement obligation as a critical audit matter because the estimate involves a high degree of subjectivity and auditing the significant assumptions utilized by management in estimating the amount of the liability requires judgment. In particular, the obligation is determined using a discounted cash flow technique and is based upon mining permit requirements and various assumptions including discount rates, inflation rate, estimates of disturbed acreage and reclamation activities, timing of reclamation activities, and third-party reclamation costs.

How the Critical Audit Matter was Addressed in the Audit

Our principal audit procedures performed to address this critical audit matter included the following:

- We evaluated the methodology used, and tested the significant assumptions discussed above and the underlying data used by the Company in its estimate.
- We compared assumptions including the credit-adjusted risk-free rate and inflation rate to current market data. In addition, to assess the estimates of disturbed acreage, timing of reclamation activities, and reclamation costs, we evaluated significant changes from the prior estimate.
- We utilized an external specialist to assist in our assessment of the Company's ARO liability. As part of this effort, the specialist performed a selected observation of mine site operations, interviewed management's engineering specialist, assessed the completeness of the mine reclamation estimate with respect to meeting mine closure and post closure plan regulatory requirements by comparing costs to permits on selected sites, and evaluated the reasonableness of the engineering estimates and assumptions.

Critical Audit Matter – Class B Common Stock Distribution Description

During the year ended December 31, 2023, the Company created a separate Class B common stock as discussed in Note 9 of the financial statements. An initial distribution of this Class B common stock occurred on June 21, 2023, via a stock dividend to existing holders of common stock as of May 12, 2023. At the date of distribution, each holder of common stock received 0.2 shares of Class B common stock for every one share of existing common stock held on the record date. Similar actions or modifications occurred for holders of outstanding stock-based awards. The holders of the Class B shares have different dividend expectations that are subject to the sole discretion of the Company's Board of Directors. Also, the Class B shares do not represent a direct interest in a separate legal entity or direct interest in specific assets.

The accounting for this distribution and its effect on other areas of financial reporting involved complex accounting considerations including interpretive guidance. The magnitude of the transaction and uniqueness of the characteristics of the Class B shares required significant research and judgment regarding accounting and disclosure conclusions.

How the Critical Audit Matter was Addressed in the Audit

Our principal audit procedures performed to address this critical audit matter included the following:

- We read the related agreements and analyzed the terms of the Class B equity transaction.
- We evaluated management's interpretation and application of the relevant accounting guidance in relation to the facts and circumstances involved and the conclusions reached regarding the accounting treatment for this transaction.
- We evaluated the disclosures surrounding the Class B shares and rights, earnings per share, and fair value, to ensure these were disclosed in accordance with the relevant accounting guidance.

/s/ Cherry Bekaert LLP

We have served as the Company's auditor since 2022 (such date takes into account the acquisition of MCM CPAs & Advisors LLP by Cherry Bekaert LLP effective October 31, 2023)

Louisville, Kentucky

March 14, 2024

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and
Stockholders of Ramaco Resources, Inc.
Lexington, Kentucky

Opinion on Internal Control over Financial Reporting

We have audited Ramaco Resources, Inc.'s (the "Company's") internal control over financial reporting as of December 31, 2023, based on criteria established in *Internal Control—Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"). In our opinion, because of the effect of the material weakness described in the following paragraph on the achievement of the objectives of the control criteria, the Company has not maintained effective internal control over financial reporting as of December 31, 2023, based on criteria established in *Internal Control—Integrated Framework (2013)* issued by COSO.

A material weakness is a control deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the Company's annual or interim financial statements will not be prevented or detected on a timely basis. The following material weakness has been identified and included in management's assessment. Management identified a material weakness related to a pervasive lack of sufficient documentation of accounting policies, procedures, and controls. This lack of sufficient documentation does not allow management to effectively assess its relevant risks and key controls to properly test for design and operating effectiveness. This material weakness was considered in determining the nature, timing, and extent of audit tests applied in our audit of the 2023 financial statements, and this report does not affect our report dated March 14, 2024, on those financial statements.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the consolidated balance sheets and the related consolidated statements of operations, equity, and cash flows of the Company, and our report dated March 14, 2024, expressed an unqualified opinion.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting included in Item 9A—Controls and Procedures in the Company's 2023 Annual Report on Form 10-K. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial

reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Cherry Bekaert LLP

Louisville, Kentucky
March 14, 2024

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Stockholders and the Board of Directors of Ramaco Resources, Inc.
Lexington, Kentucky

Opinion on the Financial Statements

We have audited the accompanying consolidated statements of operations, equity, and cash flows of Ramaco Resources, Inc. (the "Company") for the year ended December 31, 2021, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the results of the Company's operations and its cash flows for the year ended December 31, 2021, in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audit we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audit included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audit also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audit provides a reasonable basis for our opinion.

/s/ Crowe LLP

We served as the Company's auditor from January 2022 through April 2022.

Houston, Texas
March 31, 2022

Ramaco Resources, Inc.
Consolidated Balance Sheets

<i>In thousands, except share and per share information</i>	<u>December 31,</u> <u>2023</u>	<u>December 31,</u> <u>2022</u>
Assets		
Current assets		
Cash and cash equivalents	\$ 41,962	\$ 35,613
Accounts receivable	96,866	41,174
Inventories	37,163	44,973
Prepaid expenses and other	13,748	25,729
Total current assets	189,739	147,489
Property, plant, and equipment, net	459,091	429,842
Financing lease right-of-use assets, net	10,282	12,905
Advanced coal royalties	2,964	3,271
Other	3,760	2,832
Total Assets	\$ 665,836	\$ 596,339
Liabilities and Stockholders' Equity		
Liabilities		
Current liabilities		
Accounts payable	\$ 51,624	\$ 34,825
Accrued liabilities	52,225	41,806
Current portion of asset retirement obligations	110	29
Current portion of long-term debt	56,534	35,639
Current portion of related party debt	—	40,000
Current portion of financing lease obligations	5,456	5,969
Insurance financing liability	4,037	4,577
Total current liabilities	169,986	162,845
Asset retirement obligations, net	28,850	28,856
Long-term debt, net	349	18,757
Long-term financing lease obligations, net	4,915	4,917
Senior notes, net	33,296	32,830
Deferred tax liability, net	54,352	35,637
Other long-term liabilities	4,483	3,299
Total liabilities	296,231	287,141
Commitments and contingencies	—	—
Stockholders' Equity		
Preferred stock, \$0.01 par value, 50,000,000 shares authorized, none issued or outstanding	—	—
Common stock, \$0.01 par value, 260,000,000 shares authorized, 44,155,735 shares issued and outstanding at December 31, 2022 *	—	442
Class A common stock, \$0.01 par value, 225,000,000 shares authorized, 44,002,581 shares issued and outstanding at December 31, 2023 *	440	—
Class B common stock, \$0.01 par value, 35,000,000 shares authorized, 8,809,557 shares issued and outstanding at December 31, 2023	88	—
Additional paid-in capital	277,133	168,711
Retained earnings	91,944	140,045
Total stockholders' equity	369,605	309,198
Total Liabilities and Stockholders' Equity	\$ 665,836	\$ 596,339

* Common stock was reclassified to Class A common stock during Q2 2023. Refer to Note 9.

The accompanying notes are an integral part of these consolidated financial statements.

Ramaco Resources, Inc.
Consolidated Statements of Operations

<i>In thousands, except per-share amounts</i>	Year ended December 31,		
	2023	2022	2021
Revenue	\$ 693,524	\$ 565,688	\$ 283,394
Costs and expenses			
Cost of sales (exclusive of items shown separately below)	493,793	332,960	195,412
Asset retirement obligations accretion	1,403	1,115	615
Depreciation, depletion, and amortization	54,252	41,194	26,205
Selling, general, and administrative	48,831	40,032	21,629
Total costs and expenses	598,279	415,301	243,861
Operating income	95,245	150,387	39,533
Other income (expense), net	18,321	2,637	7,429
Interest expense, net	(8,903)	(6,829)	(2,556)
Income before tax	104,663	146,195	44,406
Income tax expense	22,350	30,153	4,647
Net income	\$ 82,313	\$ 116,042	\$ 39,759
Earnings per common share *			
Basic - Single class (through 6/20/2023)	\$ 0.71	\$ 2.63	\$ 0.90
Basic - Class A (6/21/2023 - 12/31/2023)	\$ 1.06	\$ —	\$ —
Total	\$ 1.77	\$ 2.63	\$ 0.90
Basic - Class B (6/21/2023 - 12/31/2023)	\$ 0.42	\$ —	\$ —
Diluted - Single class (through 6/20/2023)	\$ 0.70	\$ 2.60	\$ 0.90
Diluted - Class A (6/21/2023 - 12/31/2023)	\$ 1.03	\$ —	\$ —
Total	\$ 1.73	\$ 2.60	\$ 0.90
Diluted - Class B (6/21/2023 - 12/31/2023)	\$ 0.40	\$ —	\$ —

* Refer to Note 14 for earnings per common share calculations

The accompanying notes are an integral part of these consolidated financial statements.

Ramaco Resources, Inc.
Consolidated Statements of Equity

<i>In thousands</i>	Common Stock *	Class B Common Stock	Additional Paid- in Capital	Retained Earnings	Total Stockholders' Equity
Balance at January 1, 2021	\$ 427	\$ —	\$ 158,859	\$ 9,809	\$ 169,095
Shares surrendered for withholding taxes	(1)	—	(538)	—	(539)
Stock-based compensation	15	—	5,245	—	5,260
Cash dividends declared	—	—	—	(2,501)	(2,501)
Net income	—	—	—	39,759	39,759
Balance at December 31, 2021	441	—	163,566	47,067	211,074
Shares surrendered for withholding taxes	(2)	—	(3,181)	—	(3,183)
Stock options exercised	—	—	107	—	107
Stock-based compensation	3	—	8,219	—	8,222
Cash dividends declared	—	—	—	(23,064)	(23,064)
Net income	—	—	—	116,042	116,042
Balance at December 31, 2022	442	—	168,711	140,045	309,198
Shares surrendered for withholding taxes	(6)	(1)	(7,310)	—	(7,317)
Stock options exercised (cashless)	1	—	(1)	—	—
Stock-based compensation	3	—	12,902	—	12,905
Stock dividend declared and distributed	—	89	102,831	(102,920)	—
Cash dividends and dividend equivalents declared	—	—	—	(27,494)	(27,494)
Net income	—	—	—	82,313	82,313
Balance at December 31, 2023	\$ 440	\$ 88	\$ 277,133	\$ 91,944	\$ 369,605

* Common stock was reclassified to Class A common stock during Q2 2023.

Refer to Note 9 for additional information.

The accompanying notes are an integral part of these consolidated financial statements.

Ramaco Resources, Inc.
Consolidated Statements of Cash Flows

<i>In thousands</i>	Years ended December 31,		
	2023	2022	2021
Cash flows from operating activities:			
Net income	\$ 82,313	\$ 116,042	\$ 39,759
Adjustments to reconcile net income to net cash from operating activities:			
Accretion of asset retirement obligations	1,403	1,115	615
Depreciation, depletion, and amortization	54,252	41,194	26,205
Amortization of debt issuance costs	776	491	214
Stock-based compensation	12,905	8,222	5,260
Loss on disposal of equipment	—	756	—
Other income - gain on insurance recoveries	(10,192)	—	—
Other income - gain on sale of mineral rights	—	(2,113)	—
Other income - employee retention tax credit	—	—	(5,407)
Deferred income taxes	18,714	29,229	4,644
Changes in operating assets and liabilities:			
Accounts receivable	(55,692)	3,279	(24,154)
Prepaid expenses and other current assets	14,361	(14,378)	5,519
Inventories	7,810	(29,182)	(3,844)
Other assets and liabilities	(430)	1,127	1,124
Accounts payable	24,549	12,727	(1,820)
Accrued liabilities	10,267	19,361	5,225
Net cash provided by operating activities	161,036	187,870	53,340
Cash flows from investing activities:			
Capital expenditures	(82,904)	(123,012)	(29,466)
Acquisition of Ramaco Coal assets	—	(11,738)	—
Acquisition of Maben assets (bond recovery in 2023)	1,182	(11,897)	—
Acquisition of Amonate assets	(608)	—	(30,147)
Proceeds from sale of mineral rights	—	2,000	—
Insurance proceeds related to property, plant, and equipment	11,256	—	—
Capitalized interest	(1,137)	(1,061)	—
Net cash used for investing activities	(72,211)	(145,708)	(59,613)
Cash flows from financing activities:			
Proceeds from borrowings	130,000	42,000	54,368
Proceeds from stock options exercised	—	107	—
Payments of debt issuance cost	—	—	(2,356)
Payment of dividends	(25,820)	(20,041)	—
Repayment of borrowings	(127,514)	(26,026)	(26,300)
Repayment of Ramaco Coal acquisition financing - related party	(40,000)	(15,000)	—
Repayments of insurance financing	(5,207)	(1,290)	(862)
Repayments of equipment finance leases	(6,659)	(5,062)	(1,942)
Shares surrendered for withholding taxes payable	(7,317)	(3,183)	(539)
Net cash (used for) provided by financing activities	(82,517)	(28,495)	22,369
Net change in cash and cash equivalents and restricted cash	6,308	13,667	16,096
Cash and cash equivalents and restricted cash, beginning of period	36,473	22,806	6,710
Cash and cash equivalents and restricted cash, end of period	\$ 42,781	\$ 36,473	\$ 22,806
Supplemental cash flow information:			
Cash paid for interest (net of \$1,137 and \$1,061 capitalized in 2023 and 2022)	\$ 8,113	\$ 5,997	\$ 1,601
Cash paid for income taxes	771	15,500	9
Cash received for income tax refund	11,758	—	—
Non-cash investing and financing activities:			
Leased assets obtained under new financing leases	6,144	7,888	10,002
Financed equipment purchases	—	6,409	—
Capital expenditures included in accounts payable and accrued liabilities	4,939	13,404	6,652
Ramaco Coal acquisition financing	—	56,551	—
Maben Coal acquisition financing	—	21,000	—
Financed insurance	5,803	5,587	280
Financed insurance (2022 adjustment recorded in 2023)	(1,136)	—	—
Accrued dividends payable	7,198	5,524	2,501

The accompanying notes are an integral part of these consolidated financial statements.

Ramaco Resources, Inc.
Notes to Consolidated Financial Statements

NOTE 1—DESCRIPTION OF BUSINESS

Ramaco Resources, Inc. (the “Company,” “Ramaco,” “we,” “us,” or “our”) is a Delaware corporation formed in October 2016. Our principal corporate and executive offices are located in Lexington, Kentucky with operational offices in Charleston, West Virginia and Sheridan, Wyoming. We are an operator and developer of high-quality, low-cost metallurgical coal in southern West Virginia and southwestern Virginia. We believe each of these properties possesses geologic and logistical advantages that make our coal among the lowest delivered-cost U.S. metallurgical coal to our domestic target customer base, North American blast furnace steel mills and coke plants, as well as international metallurgical coal consumers. We also control mineral deposits near Sheridan, Wyoming as part of the Company’s initiatives regarding the potential recovery of rare earth elements as well as the potential commercialization of coal-to-carbon-based products and materials.

Although conflicts overseas continue and global economic growth remains uncertain, supply constraints support the global metallurgical coal market. Ongoing bans on the import of Russian coal have affected the availability of supply to certain seaborne markets as well as contributed to volatility in coal prices.

NOTE 2—SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation and Consolidation—The accompanying consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America (“U.S. GAAP”) and U.S. Securities and Exchange Commission regulations. The financial statements are presented on a consolidated basis for all periods presented. All significant intercompany balances and transactions between consolidated entities have been eliminated in consolidation. Certain prior year amounts in the Notes to Consolidated Financial Statements have been adjusted to conform to current presentation.

Use of estimates—The preparation of these financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect certain reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates. The most significant estimates are related to the quantity and value of coal inventories, stock-based compensation, asset retirement obligations, occupational disease obligations, evaluation of long-lived assets for impairment, quantities and values of coal reserves, depletion and amortization, useful lives, and income taxes.

Revenue Recognition—Our primary source of revenue is from the sale of coal through contracts with steel producers usually having durations of less than one year. Revenue is recognized when performance obligations under the terms of a contract with our customers are satisfied. This occurs when control of the coal is transferred to our customers. For coal shipments to domestic customers via rail, control is generally transferred when the railcar is loaded. Control is transferred for export coal shipments to customers via ocean vessel when the vessel is loaded at the port.

Our coal sales generally include up to 90-day payment terms following the transfer of control of the goods to our customer. In the case of some of our foreign customers, our contracts also require that letters of credit are posted to secure payment of any outstanding receivable. We do not include extended payment terms in our contracts. Our contracts with customers typically provide for minimum specifications or qualities of the coal we deliver. Variances from these specifications or qualities are settled by means of price adjustments. Generally, these price adjustments are settled within 30 days of delivery and are insignificant.

Certain of our contracts with customers include provisions in which the price is derived from an index. If control of the goods transfers to the customer in the period before the final price is determined, revenue is recorded based on the estimated consideration to be received. The Company estimates the amount to which it expects to receive by reference to forward curve data, if available, and generally does not constrain such estimates for accounting purposes

due to the short period of time over which the uncertainty is resolved. However, certain estimates of provisional pricing for which no forward curve data was available were constrained at December 31, 2023 due to index volatility.

Freight Revenue and Expense—Costs incurred to transport coal to the point of sale at the port facility are included in cost of sales and the gross amounts billed to customers to cover shipping to and handling of the coal at the port are included in revenue.

Cash and Cash Equivalents—We classify all highly-liquid instruments with an original maturity of three months or less as cash equivalents. Restricted cash balances at December 31, 2023 and December 31, 2022 were \$0.8 million and \$0.9 million, respectively, and consisted of funds held in escrow for potential future workers' compensation claims. Restricted cash balances were included in other current assets on the balance sheet. The Company pools individual bank accounts with the same institution for the purpose of assessing if a bank overdraft exists based on the contractual terms of the arrangement.

Inventories—Coal is reported as inventory at the point in time it is extracted from the mine. Coal inventories are valued at the lower of average cost or net realizable value, with cost determined on a first-in, first-out inventory valuation method. Coal inventory costs include labor, supplies, equipment costs, freight, operating overhead, depreciation and amortization. Coal inventory quantities are adjusted periodically based on aerial surveys of coal stockpiles. Lower of cost or net realizable value adjustments were not material. Supply inventories are valued at average cost. Inventories consisted of the following:

<i>(In thousands)</i>	<u>December 31, 2023</u>		<u>December 31, 2022</u>	
Raw coal	\$	20,122	\$	22,414
Saleable coal		12,013		18,223
Supplies		5,028		4,336
Total inventories	\$	<u>37,163</u>	\$	<u>44,973</u>

Property, Plant and Equipment—Property, plant and equipment is recorded at cost. Expenditures which extend the useful lives of existing plant and equipment are capitalized. Planned major maintenance costs which do not extend the useful lives of existing plant and equipment are expensed as incurred. When assets are retired or otherwise disposed, the related cost and accumulated depreciation are removed from the respective accounts and any profit or loss on disposition is recognized in the consolidated statements of operations.

Coal exploration costs are expensed as incurred. Coal exploration costs include those incurred to ascertain existence, location, extent or quality of ore or minerals before beginning the development stage of the mine.

Mining property and mineral rights costs represent the costs incurred to acquire the rights to access and mine certain coal property either through deeds, leases, or other conveyance agreements. These costs include the costs of acquiring, and accessing mineral reserves, resources and surface areas for mining activities.

Mine development begins when the facts and circumstances clearly establish the presence of a commercial mineralized deposit. Capitalized mine development costs represent the costs incurred to prepare mine sites and/or seams of coal for future mining. These costs include costs of acquiring, permitting, planning, research, and developing access to identified mineral reserves and other preparations for commercial production as necessary to develop and permit the properties for mining activities. When components of capitalized mine development costs are replaced with new components, the Company capitalizes the replacement as a separate component and charges off the net book value of the component that was replaced at the cease-use date.

If it is determined that an undeveloped mineral interest cannot be economically converted into proven and probable reserves, capitalized costs are assessed for impairment and future development costs are expensed as incurred.

Operating expenditures, including certain professional fees and overhead costs, are not capitalized but are expensed as incurred.

Mineral rights and capitalized mine development costs are depleted and amortized on a units-of-production basis as mining of that mine's assigned reserves takes place. Depreciation of plant and equipment is calculated on the straight-line method over their estimated useful lives ranging from three to thirty years.

Advanced Coal Royalties—In most cases, we acquire the right to mine coal reserves under leases which call for the payment of royalties on coal as it is mined and sold. In many cases, these mineral leases require the payment of advance or minimum coal royalties to lessors that are recoupable against future production royalties. These advance payments are deferred and charged to operations as the coal reserves are mined.

Impairment of Long-lived Assets—We review and evaluate held-and-used long-lived assets, including property, plant and equipment and mine development costs, for impairment when events or changes in circumstances indicate that the asset or asset group's carrying value may not be recoverable. Recoverability is measured by comparing the carrying amount of the asset or asset group to the estimated undiscounted future cash flows expected to be generated by the asset or asset group. If the carrying amount of the asset or asset group exceeds its estimated undiscounted future cash flows, an impairment loss is recorded for the excess of the carrying amount over the estimated fair value, if any. We may, under limited circumstances, idle mining operations in response to certain events or conditions. Because an idling is not a permanent closure, it is not considered an automatic indicator of impairment.

Asset Retirement Obligations—Legal obligations associated with the retirement of long-lived assets are initially recognized at their estimated fair value, with a corresponding charge to capitalized development costs, at the time they are incurred. Our asset retirement obligations primarily consist of spending estimates related to reclaiming metallurgical coal land and support facilities in accordance with federal and state reclamation laws as defined by each mining permit. Spending estimates are adjusted for inflation and then discounted at the credit-adjusted, risk-free rate. We record the fair value of a liability for an asset retirement obligation in the period in which it is incurred and a corresponding increase in the carrying amount of the related long-lived asset. The liability is accreted to its present value over time and the capitalized cost is amortized using the units-of-production method over estimated recoverable reserves upon commencement of mining. We review our asset retirement obligations on at least an annual basis for significant changes in the estimated timing or amount of cash flows.

Occupational Disease (Pneumoconiosis) Obligations. We recognize as a liability to provide for occupational disease (pneumoconiosis) benefits to eligible employees, former employees and dependents as required by the Federal Mine Safety and Health Act of 1969, as amended. The occupational disease benefit obligation represents the present value of the actuarially computed liabilities for such benefits over the employees' applicable years of service.

Estimating our occupational disease (pneumoconiosis) benefits obligation requires management to make estimates and judgments regarding timing and existence of a liability utilizing third-party actuaries to assist in preparing what constitutes adequate liability amounts. Inherent in the calculation are numerous assumptions and judgments including the ultimate costs, mortality factors, credit-adjusted discount rates, and timing of settlement. Adjustments to estimated liabilities due to changes in actuarial assumptions are recorded immediately in earnings in the period in which the change in estimate occurs.

Other Income—We recognized \$5.4 million associated with the Coronavirus Aid, Relief and Economic Security Act Employee Retention Tax Credit as other income within the consolidated statements of operations for 2021.

Leases—We determine if an arrangement is or contains a lease at contract inception, and lease classification is determined at the commencement date. Leases are recognized on the balance sheet as right-of-use ("ROU") assets and lease liabilities except for leases with a term of 12 months or less.

ROU assets represent our right to use an underlying asset for the lease term and lease liabilities represent our obligation to make lease payments arising from the lease. Operating and finance lease ROU assets and liabilities are recognized at commencement date based on the present value of the fixed lease payments over the lease term. The

Company does not separate lease and non-lease components for all leases as permitted under the accounting guidance for leases. As most of our leases do not contain a readily determinable implicit rate, we generally use our incremental borrowing rate based on the estimated rate of interest for collateralized borrowing over a similar term of the lease payments at commencement date. The operating and finance lease ROU assets also include lease prepayments made by the Company and are reduced by any lease incentives received by the Company prior to commencement. Our lease terms may include options to extend or terminate the lease when it is reasonably certain that we will exercise that option. For operating leases, lease expense is recorded in the income statement based on a straight-line recognition of the total fixed payments over the lease term. For finance leases, accretion of the liability is recognized as interest expense and the ROU asset is amortized separately on a straight-line basis similar to the depreciation of equipment owned by the Company.

Leases of mineral reserves and the related land leases are exempted under U.S. GAAP from recognition on the consolidated balance sheets.

Fair Value Measurements—Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Assets and liabilities that are recognized or disclosed at fair value are categorized in the fair value hierarchy based on the observability of the inputs utilized in the valuation. The levels of the hierarchy include: Level 1 - inputs are quoted prices in active markets for the identical assets or liabilities; Level 2 - inputs are other than quoted prices included in Level 1 that are directly or indirectly observable through market-corroborated inputs; and Level 3 - inputs are unobservable, or observable but cannot be market-corroborated, requiring us to make assumptions about pricing by market participants.

The fair values of cash and cash equivalents, accounts receivable, restricted cash, and accounts payable approximate their carrying amounts at each reporting date. The Company's Senior Notes had an estimated fair value of \$35.5 million and \$36.3 million at December 31, 2023 and 2022, respectively. The fair values of the Company's Senior Notes were based on observable market prices and were considered a Level 2 measurement at December 31, 2023 and December 31, 2022 based on trading volumes. The difference between the fair value and carrying amount of the Company's remaining debts is not material due to the similarity between the terms of the debt agreements and prevailing market terms available to the Company. Refer to Note 7 for additional information regarding debt.

Nonrecurring fair value measurements of the Company include asset retirement obligations and estimated values used to allocate the acquisition cost of long-lived assets to individual assets, neither of which are subject to the fair value disclosure requirements.

The fair value of asset retirement obligations is determined as the present value of estimated cash flows related to reclamation obligations, which would likely be a Level 3 measurement due to the use of unobservable inputs such as estimates regarding the amount and timing of costs to be incurred, inflation rates, and the Company's credit-adjusted discount rate.

The consideration for the Company's prior year acquisitions was allocated based on the relative fair values of the assets acquired, the primary asset of which was mineral rights. The fair values of mineral rights were determined based on Level 3 inputs, which are generally unobservable, requiring the Company to make assumptions about future coal prices, capital expenditures, future coal production, costs of production, and an appropriate rate at which to discount the future cash flows.

Income Taxes—Income tax expense (benefit) includes Federal and state income taxes. Certain income and expenses are not reported in tax returns and financial statements in the same year. The tax effect of such temporary differences is reported as deferred income taxes. We account for deferred income taxes by applying statutory tax rates in effect at the reporting date of the balance sheet. A valuation allowance is established if it is more likely than not that the related tax benefits will not be realized. In determining the appropriate valuation allowance, we consider the projected realization of tax benefits based on expected levels of future taxable income, available tax planning strategies and reversals of existing taxable temporary differences. The Company had no valuation allowances on the balance sheet as of December 31, 2023 and 2022.

Uncertain tax positions are recognized only if it is more likely than not that the tax position will be sustained on examination by the taxing authorities, based on the technical merits of the position. We had no uncertain tax positions requiring liability recognition as of December 31, 2023 and 2022. We file income tax returns in the U.S. and in various state and local jurisdictions which may be routinely examined by tax authorities. The statute of limitations for examination of the Company's tax filings by taxing authorities is currently open for tax returns filed for the year 2020 and thereafter.

The Company recognizes accrued interest related to income tax matters in interest expense, net, separately from the tax provision recorded in income tax expense on the income statement.

Segment Reporting—Our properties located in West Virginia and Virginia each consist of mineral reserves for production of metallurgical coal from both underground and surface mines. These operations are within the Appalachian basin. Geology, coal transportation routes to customers, regulatory environments and coal quality or type are characteristic to a basin. For financial reporting purposes, these operations represent a single segment because each possesses similar production methods, distribution methods, and customer quality and consumption characteristics, resulting in similar long-term expected financial performance.

The Ramaco Coal acquisition in 2022, as discussed in greater detail in Note 4, provides the Company with royalty savings and controlled mineral rights near Sheridan, Wyoming. This property includes a thermal coal deposit and permit and is currently undergoing mineral analysis and core drilling to assess potential concentrations of rare earth elements. The property also includes a research and pilot facility related to the Company's possible expansion into the manufacturing and commercialization of advanced carbon products and materials from coal. Research and development expenses related to advanced carbon products and materials are not yet material for separate disclosure. Ramaco is also a party to certain collaborative arrangements with government researchers and other organizations, which involve providing in-kind contributions such as ores, samples, feedstock, and services.

The activities at the Sheridan property represent a separate operating segment and have economic and geographic differences compared to the Company's metallurgical operations in the Appalachian basin. Nonetheless, these activities do not meet the significance tests for separate disclosure as a reportable segment at this time.

The chief operating decision maker does not regularly review segment asset information for the purpose of assessing performance and making resource allocation decisions.

Stock-Based Compensation—Compensation cost for equity awards is based on the grant-date fair value of the award and is recognized over the requisite service period. Forfeitures are recognized as they occur.

The fair values of restricted stock and restricted stock unit awards having only a service condition were determined using the publicly-traded price of our common stock on the grant date. The fair value of performance stock units, which vest based on the achievement of relative total shareholder return goals, was determined on the date of grant based on a Monte Carlo simulation. The fair value of stock option awards was calculated using the Black-Scholes option-pricing model. The Black-Scholes model requires us to make assumptions and judgments about the variables used in the calculation, including the expected term, expected volatility, risk-free interest rate, dividend rate and service period.

Concentrations—Our current operations are all related to metallurgical coal within the mining industry. A reduction in metallurgical coal prices or other disturbances in the metallurgical coal markets could have an adverse effect on our financial results. In 2023, 2022, and 2021, approximately 33%, 58%, and 51%, respectively, of our revenue was derived from coal shipments to customers in North American markets. The decrease in North American revenue in 2023 was due to sales within the United States.

During 2023, sales to three customers accounted for 15%, 13%, and 13% of our revenues, or collectively 41% of total revenue. During 2022, sales to two customers accounted for 21% and 17% of our revenues, or collectively 38% of total revenue. During 2021, sales to three customers accounted for 30%, 15%, and 13% of our revenues, or

collectively 58% of total revenue. The number of customers comprising the concentrations above is based on a threshold of 10% or more of total revenues.

Financial instruments that potentially subject us to a significant concentration of credit risk consist primarily of cash and cash equivalents, restricted cash, and accounts receivable. We monitor the credit ratings and concentration of risk with financial institutions on a continuing basis to safeguard our cash deposits. In addition, the Company is party to an arrangement that began in 2023 whereby our cash and cash equivalents are placed at various banks in amounts no greater than the \$250,000 FDIC-insured limit to help safeguard against potential losses in the financial sector.

We have a limited number of customers. Contracts with these customers provide for billings principally upon shipment and compliance with payment terms is monitored on an ongoing basis. Outstanding receivables beyond payment terms are promptly investigated and discussed with the specific customer. We estimate an allowance for credit losses by taking into consideration the age of past due accounts and an assessment of our customers' ability to pay. An allowance for credit losses was not necessary as of December 31, 2023 and 2022.

Three customers accounted for 22%, 19%, and 15%, of our trade receivables, or collectively 56% of the Company's accounts receivable balance at December 31, 2023. The number of customers comprising the concentrations above is based on a threshold of 10% or more of total accounts receivable.

Recent Accounting Standards Updates

In October 2023, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2023-06, *Disclosure Improvements: Codification Amendments in Response to the SEC's Disclosure Update and Simplification Initiative* ("ASU 2023-06"). The amendments in ASU 2023-06 clarify or improve disclosure and presentation requirements for a variety of topics, including debt and earnings per share. The effective date for each amendment in ASU 2023-06 will be the effective date of the SEC's removal of that related disclosure from existing SEC regulations, and each amendment should be applied prospectively after its effective date. A material impact to our disclosures is not expected at this time since the Company is already subject to existing SEC disclosure requirements.

In November 2023, the FASB issued ASU 2023-07, *Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures* ("ASU 2023-07"). The amendments in ASU 2023-07 require incremental disclosures related to a public entity's reportable segments and increase the frequency with which most segment disclosures are made. Incremental disclosures required by the ASU include significant segment expenses regularly provided to the chief operating decision maker ("CODM") and included within the segment's measure of profit or loss, the title and position of the CODM and an explanation how the CODM uses the reported measure of a segment's profit or loss to assess performance and allocate resources, and the amount and composition of other segment items necessary to reconcile segment revenue, significant expenses, and the reported measure of profit or loss. The ASU also expands interim disclosure requirements such that nearly all annual quantitative segment disclosures will be made on an interim basis and requires that entities with a single reportable segment provide all segment disclosures that are not evident from the primary financial statements, including significant segment expenses, consistent with the approach used by management to evaluate performance. ASU 2023-07 is effective starting with Ramaco's 2024 annual financial statements and on a quarterly basis thereafter. Retrospective application is required. The Company is currently evaluating the impact of the ASU; however, incremental disclosures will likely occur upon adoption.

In December 2023, the FASB issued ASU 2023-09, *Income Taxes (Topic 740): Improvements to Income Tax Disclosures* ("ASU 2023-09"). The amendments in ASU 2023-09 require reporting entities to disclose annual income taxes paid, net of refunds, disaggregated by federal, state, and foreign taxes and to provide additional disaggregated information for individual jurisdictions that equal or exceed 5% of total income taxes paid, net of refunds. ASU 2023-09 also requires public business entities to disclose additional categories of information about federal, state, and foreign income taxes in their annual rate reconciliation table and provide more information about some categories if the quantitative threshold is met. The ASU will also require disclosure of amounts *and* percentages in the annual rate reconciliation table, rather than amounts *or* percentages, and will eliminate certain existing disclosure requirements related to uncertain tax positions and unrecognized deferred tax liabilities. ASU 2023-09 is effective starting with Ramaco's 2025 annual financial statements and may be applied prospectively to only the income tax disclosures

provided for 2025 or retrospectively by providing revised disclosures for all periods presented. Early adoption is permitted. The Company is currently evaluating the impact of the ASU; however, incremental disclosures will likely be provided on a prospective basis in the Company's 2025 annual financial statements upon adoption.

NOTE 3—PROPERTY, PLANT, AND EQUIPMENT

Property, plant, and equipment consisted of the following:

<i>(In thousands)</i>	December 31,	
	2023	2022
Plant and equipment	\$ 290,060	\$ 232,885
Mining property and mineral rights	120,532	120,760
Construction in process	13,984	34,698
Capitalized mine development costs	174,260	153,436
Less: accumulated depreciation, depletion, and amortization	<u>(139,745)</u>	<u>(111,937)</u>
Total property, plant, and equipment, net	<u>\$ 459,091</u>	<u>\$ 429,842</u>

Capitalized amounts related to coal reserves at properties where we are not currently engaged in mining operations totaled \$17.4 million as of December 31, 2023 and \$33.4 million as of December 31, 2022.

On July 10, 2022, the Company experienced a methane ignition at the Berwind No. 1 mine, which was one of the active mines at our Berwind mining complex. The other mines resumed production while the Berwind No. 1 mine was idled until a full investigation could be conducted. There were no personnel in the mine at the time of the incident and no injuries or fatalities occurred. The overall impact to pre-tax earnings in 2022 was immaterial except for idle mine costs of \$9.5 million recognized during the year. Production from the Berwind No. 1 mine restarted in the first quarter of 2023. The Company received \$9.2 million of insurance proceeds during 2023 related to this matter, which have been reported as part of *Insurance proceeds related to property, plant, and equipment* in the investing activities section of the Consolidated Statements of Cash Flows, and recognized a gain of \$8.1 million in *Other income (expense), net* on the Consolidated Statement of Operations in 2023 as the Company had previously accrued a \$1.1 million recovery asset at December 31, 2022.

Mining property and mineral rights are made up primarily of significant asset acquisitions that occurred in 2022 and 2021. Refer to Note 4 for more information.

Depreciation, depletion, and amortization included:

<i>(In thousands)</i>	Year ended December 31,		
	2023	2022	2021
Depreciation of plant and equipment	\$ 30,913	\$ 24,132	\$ 17,945
Amortization of right-of-use assets (finance leases)	8,547	4,846	1,109
Amortization and depletion of capitalized mine development costs and mineral rights	14,792	12,216	7,151
Total depreciation, depletion, and amortization	<u>\$ 54,252</u>	<u>\$ 41,194</u>	<u>\$ 26,205</u>

NOTE 4—ACQUISITIONS

Ramaco Coal

On April 29, 2022, the acquisition of Ramaco Coal, an entity owned by an investment fund managed by Yorktown Partners and certain members of the Company's management, was completed pursuant to a Purchase and Sale Agreement, dated February 23, 2022. The purchase price was approximately \$65 million, consisting of an initial payment of \$10 million paid at closing and a deferred purchase price of \$55 million paid during the remainder of 2022 in

\$5 million ratable quarterly installments, and \$10 million ratable quarterly installments paid in 2023 plus interest at a rate of 9%.

Ramaco Coal controls certain coal mineral interests of principally metallurgical coal properties which are owned in fee or leased under long-term leases that are, in turn, leased or subleased to the Company and various third parties. Such lessees pay a royalty based on the amount of metallurgical coal mined and the realized price per ton.

Ramaco Coal also controls a large thermal coal deposit and permit near Sheridan, Wyoming covering approximately 16 thousand acres, including a research and development facility and associated equipment and has a goal of converting coal to carbon products, such as graphene, graphite and carbon fiber.

Concurrent with this acquisition, the Company and Ramaco Coal each sold certain mineral rights located in West Virginia (the “Split Ridge Arrangement”). To compensate for the sale of these rights, we received an overriding royalty arrangement which included \$2 million up front and \$125 thousand quarterly minimum royalty payment beginning in January 2024 until December 2028. The fair value of this arrangement was \$3.7 million, of which, \$1.6 million was treated as an allocation of the fair value of this disposed component of Ramaco Coal and, separately, a \$2.1 million gain on the sale of the Company’s mineral rights included in *Other income (expense), net* on the 2022 Consolidated Statement of Operations.

The acquisition of Ramaco Coal was accounted for as a purchase of assets due to substantially all of the fair value being concentrated in a single asset, the rights to metallurgical coal deposits. The consideration paid in connection with the acquisition of Ramaco Coal, including \$1.6 million in closing costs, relinquishment of \$1.6 million of prepaid royalties and \$0.1 million paid to a mineral owner as part of the acquisition, was approximately \$68.3 million and was allocated based on fair values to mining property and mineral rights (\$65.1 million), buildings (\$2.6 million) and equipment (\$0.6 million). Refer to Note 7 for a description of the acquisition financing.

Maben Coal

On September 23, 2022, the Company completed the acquisition of 100% of the equity interests of Maben Coal, LLC (“Maben Coal”) pursuant to the Securities Purchase Agreement dated August 8, 2022, with Appleton Coal, LLC. The purchase price was approximately \$30.0 million, consisting of an initial payment of \$9.0 million and proceeds from a new two-year loan in the amount of \$21.0 million. The Company also paid approximately \$1.7 million of transaction costs and recognized liabilities of \$1.3 million on the closing date, primarily related to \$1.2 million of cash bond replacement obligations incurred by the Company as part of the transaction. In the fourth quarter of 2022, the Company paid off the \$1.2 million cash bond replacement obligation to Appleton Coal, LLC, which was included in the investing activities section of the statement of cash flows. The \$1.2 million bond replacement payment was subsequently recovered in 2023, which reduced the cash investment related to this transaction to \$10.7 million.

We acquired a large coal deposit on approximately 28 thousand leased acres located in Wyoming County and Raleigh County, West Virginia. We assumed existing mining permits issued by the West Virginia Department of Environmental Protection, which authorizes mining by both surface and highwall mining methods as well as by underground methods. The property also has issued permits covering an existing haul road, as well as an active refuse disposal area together with a preparation plant and unit train loadout, neither of which had been constructed as of the closing date.

The acquisition of Maben Coal was accounted for as a purchase of assets due to substantially all of the fair value being concentrated in a single asset, the rights to leased metallurgical coal deposits. The total consideration of approximately \$33.0 million was allocated to mining property and mineral rights (\$30.6 million), capitalized mine development costs (\$1.0 million), receivable for the right to recover cash bond replacement payments made by the Company as discussed above (\$1.2 million, which was received in 2023), and recoupable royalties (\$0.2 million). Refer to Note 7 for information regarding the acquisition financing.

Amonate Assets

In December 2021, we acquired what are referred to as the “Amonate Assets” from Coronado, pursuant to an asset purchase agreement. The acquisition, for a total cash consideration of \$30 million, included a mine complex located in McDowell County, West Virginia and Tazewell County, Virginia adjacent and contiguous to the Company’s existing Berwind Complex. The acquisition primarily consists of high-quality, low and mid-vol metallurgical coal reserves and resources, much of which will be mined from the Company’s Berwind Complex. Also purchased were several additional permitted mines and a currently idled 1.3-million-ton per annum capacity coal preparation plant. The Company paid an additional \$0.6 million in 2023 for transaction-related costs, which was also included in investing activities since the delay in payment was due to administrative reasons rather than financing.

NOTE 5—ASSET RETIREMENT OBLIGATIONS

We estimate asset retirement obligations (“ARO”) for final reclamation based upon detailed engineering calculations of the amount and timing of the future cash spending for a third party to perform the required work. Amounts recorded related to asset retirement obligations were as follows:

(In thousands)	December 31,	
	2023	2022
Balance at beginning of year	\$ 28,885	\$ 22,549
Additional asset retirement obligations acquired/incurred	542	1,440
Expenditures made	—	—
Accretion expense	1,403	1,115
Revisions to estimates	(1,870)	3,781
Balance at end of year	<u>\$ 28,960</u>	<u>\$ 28,885</u>

NOTE 6—ACCRUED LIABILITIES AND OTHER LONG-TERM LIABILITIES

Accrued liabilities at December 31, 2023 consisted of accrued compensation of \$14.6 million and various other liabilities. Accrued expenses at December 31, 2022 consisted of accrued compensation of \$12.1 million and various other liabilities. The Company sponsors a defined contribution plan to assist eligible employees in providing for their future retirement needs. Contribution expenses related to the plan totaled \$3.1 million, \$2.3 million, and \$1.2 million for the years ended December 31, 2023, 2022, and 2021, respectively.

Other long-term liabilities were comprised primarily of worker’s compensation and occupational disease obligations discussed below.

Workers’ Compensation and Occupational Disease Obligations

We are self-insured for certain losses relating to workers’ compensation claims and occupational disease obligations under the Federal Mine Safety and Health Act of 1969, as amended. Starting in 2023, the Company also elected to self-insure employee medical expenses. We purchase insurance coverage to reduce our exposure to significant levels of these claims. Self-insured losses are accrued based upon estimates of the aggregate liability for uninsured claims incurred as of the balance sheet date using claims data and actuarial assumptions. The occupational disease benefit obligation represents the present value of the actuarially computed liabilities for such benefits over the employees’ applicable years of service. The occupational disease benefit liability was calculated using a discount rate of 5.3% and 5.6% at December 31, 2023 and 2022, respectively.

As of December 31, 2023, the estimated aggregate liability for uninsured claims totaled \$5.2 million, including \$2.3 million of occupational disease obligations. Of the aggregate liability, \$3.1 million was included in *Other long-term liabilities* on the Consolidated Balance Sheet. As of December 31, 2022, the estimated aggregate liability for uninsured claims totaled \$3.6 million, including \$1.5 million of occupational disease obligations. Of the aggregate liability, \$2.7 million was included in *Other long-term liabilities* within the Consolidated Balance Sheet.

NOTE 7—DEBT

Our outstanding debt consisted of the following:

(In thousands)	December 31, 2023	December 31, 2022
Revolving Credit Facility	\$ 42,500	\$ 25,000
Equipment loans	2,983	8,396
Senior Notes, net	33,296	32,830
Financing of Ramaco Coal acquisition - Related party debt	—	40,000
Financing of Maben Coal acquisition	11,400	21,000
Total debt	\$ 90,179	\$ 127,226
Current portion of long-term debt	56,534	75,639
Long-term debt, net	\$ 33,645	\$ 51,587

Revolving Credit Facility—On February 15, 2023, the Company entered into the Second Amended and Restated Credit and Security Agreement, which includes KeyBank National Association (“KeyBank”), and multiple lending parties. The facility, which has a maturity date of February 15, 2026, provides an initial aggregate revolving commitment of \$125.0 million as well as an accordion feature of \$50 million subject to certain terms and conditions, including lender’s consent. The borrowing base at December 31, 2023 was \$91.1 million based on eligible accounts receivable and inventory collateral and reserve requirements. The remaining availability under the facility at December 31, 2023, after \$42.5 million of outstanding borrowings, was \$48.6 million.

Revolving loans under the facility bear interest at either the base rate plus 1.50% or the Secured Overnight Financing Rate plus 2.00%. The base rate equals the highest of the administrative agent’s prime rate, the Federal Funds Effective Rate plus 0.5%, or 3%.

The terms of the facility include covenants limiting the ability of the Company to incur additional indebtedness, make investments or loans, incur liens, consummate mergers and similar fundamental changes, make restricted payments, and enter into transactions with affiliates. The terms of the facility also require the Company to maintain certain covenants, including fixed charge ratio and compensating balance requirements. A fixed charge coverage ratio of not less than 1.10:1.00, calculated as of the last day of each fiscal quarter, must be maintained by the Company. In addition, the Company must maintain an average daily cash balance of \$5 million, as determined on a monthly basis, in a dedicated account as well as an additional \$1 million in a separate dedicated account to assure future credit availability. At December 31, 2023, we were in compliance with all debt covenants under the Revolving Credit Facility.

Key Equipment Finance Loan—On April 16, 2020, we entered into an equipment loan with Key Equipment Finance, a division of KeyBank, as lender, in the principal amount of approximately \$4.7 million for the financing of existing underground and surface equipment (the “Equipment Loan”). The Equipment Loan accrued interest at 7.45% per annum and was payable in 36 monthly installments. The outstanding principal balance was \$0.6 million at December 31, 2022 and was repaid in full in April 2023.

J. H. Fletcher & Co. Loan—On July 23, 2021 and November 24, 2021, we entered into equipment loans with J. H. Fletcher & Co., as lender, in the principal amount of approximately \$0.9 million and \$3.9 million, respectively, for the financing of underground equipment (the “Fletcher Equipment Loan”). The Fletcher Equipment Loan bears interest at 0% per annum and is payable in 24 monthly installments totaling \$200 thousand. In the third quarter of 2022, we obtained additional equipment loans of \$4.4 million. The 2022 loans bear no interest and are payable in 24 monthly installments of \$195 thousand. The total outstanding principal balance of the Fletcher Equipment Loans was \$1.9 million at December 31, 2023 and is due in full in 2024.

Komatsu Financial Limited Partnership Loan—On August 16, 2021, we entered into an equipment loan with Komatsu Financial Limited Partnership, as lender, in the principal amount of approximately \$1.0 million for the financing of surface equipment (the “Komatsu Equipment Loan”). Additional equipment loans of \$0.7 million were entered into during October 2022. The Komatsu Equipment Loan bears interest at 4.6% per annum and is payable in 36

monthly installments of \$36 thousand for the first six months and then at \$28 thousand until maturity. The outstanding principal balance of the Komatsu Equipment Loan was \$0.6 million at December 31, 2023.

Brandeis Machinery & Supply Company—On January 11, 2022, we entered into equipment loans with Brandeis Machinery & Supply Company, as lender, in the principal amount of \$1.4 million for the financing of surface equipment (the “Brandeis Equipment Loans”). The Brandeis Equipment Loans bear interest at 4.8% per annum and are payable in 48 monthly installments. The outstanding principal balance of the Brandeis Equipment Loans was \$0.5 million at December 31, 2023.

9.00% Senior Unsecured Notes due 2026—On July 13, 2021, we completed an offering of \$34.5 million, in the aggregate, of the Company’s 9.00% Senior Unsecured Notes due 2026 (the “Senior Notes”), less \$2.4 million for issuance costs. The Senior Notes mature on July 30, 2026, unless redeemed prior to maturity. The Senior Notes bear interest at a rate of 9.00% per annum, payable quarterly in arrears on the 30th day of January, April, July and October of each year, commencing on July 30, 2021. We may redeem the Senior Notes in whole or in part, at our option, at any time on or after July 30, 2023, or upon certain change of control events, at a redemption price equal to 100% of the principal amount plus accrued and unpaid interest to, but not including, the date of redemption. Issuance costs for the Senior Notes included underwriters’ fees, attorney, accounting and filing costs totaling \$2.4 million. These issuance costs are reported as a debt discount which is being amortized over the Senior Notes term using an effective rate method. The outstanding principal remains at \$34.5 million; however, the balance of the Senior Notes reported at December 31, 2023 was \$33.3 million, which is net of unamortized discounts and issuance costs of \$1.2 million. The effective interest rate is approximately 10.45%.

Ramaco Coal Deferred Purchase Price—On April 29, 2022, we acquired the assets of Ramaco Coal (see Note 4) and entered into an agreement whereby an investment fund managed by Yorktown Partners, as lender, provided financing for the acquisition in the principal amount of \$55.0 (the “Ramaco Coal Loan”). The Ramaco Coal Loan accrued interest at 9% per annum and was payable in seven quarterly installments of \$5 million for each remaining quarter in 2022 and \$10 million for each quarter in 2023 until maturity. The outstanding principal balance of the Ramaco Coal Loan was \$40.0 million at December 31, 2022. The loan was repaid in full during 2023.

Financing of Maben Coal Acquisition – On September 23, 2022, we acquired 100% of the equity interests of Maben Coal, LLC (see Note 4) and entered into a secured loan with Investec Bank PLC in the amount of \$21.0 million to pay a portion of the purchase price. The loan bears interest at the applicable secured overnight financing rate (“SOFR”) plus a margin of 3.0% payable in cash, compounded monthly. In January 2023, the Company started making monthly repayments of the outstanding principal in the amount of \$800 thousand per month and will continue to do so until making a balloon payment for the remaining amount on the maturity date of September 23, 2024. The outstanding principal balance was \$11.4 million at December 31, 2023.

The loan contains certain financial covenants, including minimum cash balance, leverage ratio, and interest coverage ratio requirements. At December 31, 2023, we were in compliance with the financial covenants related to the loan.

Current portion of long-term debt – The Company’s short-term debt at December 31, 2023 was comprised of \$42.5 million borrowed under the Revolving Credit Facility, which was repaid shortly after the balance sheet date using funds from current operations, \$11.4 million of unpaid financing associated with the Maben Coal Acquisition, and \$2.6 million due under equipment loans. The weighted average interest rate on these borrowings is approximately 7.4%.

Insurance financing—The Company financed premium payments of \$5.8 million associated with various insurance policies, which must be repaid to a third-party finance company in monthly installments over a one-year term. The outstanding debt balance was \$4.0 million at December 31, 2023, which is not reflected in the tables above or below.

Maturities of our debt are presented below, which are \$1.2 million higher than total debt on the balance sheet due to discounts and issuance costs to be accreted over future periods.

(In thousands)	
Years ending December 31:	
2024	\$ 56,534
2025	335
2026	34,514
2027	—
2028	—
Total debt	<u>\$ 91,383</u>

NOTE 8—LEASES

The Company has various finance leases for mining equipment, which generally include 3-5 year terms and expire through 2028. In addition, we have one operating lease for office space with a term of approximately five years that runs through 2027.

Amortization of right-of-use assets associated with finance leases was \$8.5 million, \$4.8 million, and \$1.1 million in 2023, 2022, and 2021, respectively, as discussed in Note 3. Interest expense recognized for financing lease liabilities was \$0.6 million, \$0.4 million, and \$0.1 million in 2023, 2022, and 2021, respectively. Operating lease expense was \$0.2 million in 2023, \$0.2 million in 2022, and \$0.1 million in 2021.

Right-of-use assets and lease liabilities are determined as the present value of the lease payments, discounted using either the implicit interest rate in the lease or our estimated incremental borrowing rate based on similar terms, payments and the economic environment where the leased asset is located. Below is a summary of our leases:

(In thousands)	Classification	December 31, 2023	December 31, 2022
Right-of-use assets			
Financing	Financing lease right-of-use assets, net	\$ 10,282	\$ 12,905
Operating	Other assets	540	694
Total right-of-use assets		<u>\$ 10,822</u>	<u>\$ 13,599</u>
Current lease liabilities			
Financing	Current portion of financing lease obligations	\$ 5,456	\$ 5,969
Operating	Accrued expenses	134	122
Non-current lease liabilities			
Financing	Long-term portion of financing lease obligations	\$ 4,915	\$ 4,917
Operating	Other long-term liabilities	450	585
Total lease liabilities		<u>\$ 10,955</u>	<u>\$ 11,593</u>

Minimum lease payments for our lease obligations are as follows:

<i>(In thousands)</i>	December 31, 2023		
	Financing	Operating	Total
Future minimum lease payments:			
2024	\$ 5,910	\$ 165	\$ 6,075
2025	2,390	165	2,555
2026	1,233	165	1,398
2027	1,233	165	1,398
2028	514	—	514
Total undiscounted lease payments	11,280	660	11,940
Less: Amounts representing interest	(909)	(76)	(985)
Present value of lease obligations	\$ 10,371	\$ 584	\$ 10,955
Weighted average remaining term (years)	2.8	4.0	
Weighted average discount rate	4.2%	6.0%	

During 2023, the Company also entered into a lease of office space in Charleston, WV, which is not reflected in the disclosures above because the commencement date has not occurred for accounting purposes. The lease will be recognized at a later date when the space is ready to be occupied by the Company. The term of the lease is expected to be in the range of 6-8 years.

Coal Leases and Associated Royalty Commitments—Leases of mineral reserves and related land leases are exempt from the lease accounting requirements addressed above. Refer to Note 10 for information regarding coal leases and associated royalty commitments.

NOTE 9—EQUITY

On June 12, 2023, an amendment to the Company's amended and restated certificate of incorporation was approved by shareholder vote to reclassify the Company's existing common stock as shares of Class A common stock and create a separate Class B common stock. We are authorized to issue up to a total of 225,000,000 shares of Class A common stock and 35,000,000 shares of Class B common stock as well as 50,000,000 shares of preferred stock, each having a par value of \$0.01 per share.

The initial distribution of Class B common stock occurred on June 21, 2023 via a stock dividend to existing holders of common stock as of May 12, 2023. On the date of initial distribution, each holder of common stock received 0.2 shares of Class B common stock for every one share of existing common stock held on the record date. Similar actions or modifications occurred for holders of outstanding stock-based awards.

The distribution of the Class B common stock provides existing holders of the Company's common stock with an opportunity to participate directly in the financial performance of the Company's CORE assets on a stand-alone basis, separate from the Company's metallurgical coal operations. CORE assets were acquired initially as part of the Company's acquisition of Ramaco Coal in the second quarter of 2022. The financial performance of CORE assets consists of the following non-cost-bearing revenue streams based on the Company's current expectations:

- Royalty fees derived from the royalties associated with the Ramaco Coal and Amonate reserves, which we believe approximates 3% of Company-produced coal sales revenue excluding coal sales revenue from Knox Creek,
- Infrastructure fees based on \$5.00 per ton of coal processed at our preparation plants and \$2.50 per ton of loaded coal at the Company's rail load-out facilities, and
- Future income derived, if and when realized, from advanced carbon products and rare earth elements initiatives.

The Company expects to pay a dividend equal to 20% of the total fees above; however, any dividend amounts declared and paid are subject to the sole discretion of the Company's Board of Directors.

In addition, the Board of Directors retains the power to change or add expense allocation policies related to CORE, redefine CORE assets, and redetermine CORE's per-ton usage fees at any time, in its sole discretion, without shareholder approval. Holders of shares of Class A common stock continue to be entitled to receive dividends when and if declared by the Board of Directors subject to any statutory or contractual restrictions on the payment of dividends and to any prior rights and preferences that may be applicable to outstanding preferred stock, if any.

CORE is not a separate legal entity and holders of Class B common stock do not own a direct interest in the assets of CORE. Holders of Class B common stock are stockholders of Ramaco Resources, Inc. and are subject to all risks and liabilities of the Company as a whole.

With respect to voting rights, holders of Class A common stock and Class B common stock vote together as a single class on all matters submitted to a vote of the stockholders and are entitled to one vote per share. The holders of Class A common stock and Class B common stock do not have cumulative voting rights in the election of directors. Class B common stock does not have any specific voting rights or governance rights with respect to CORE.

With respect to liquidation rights, holders of common stock are entitled to receive ratably the assets available for distribution to the stockholders after payment of liabilities and the liquidation preference of outstanding preferred stock, if any. That is, the rights to residual net assets upon liquidation are equal between holders of Class A and Class B common stock. Holders of Class B common stock do not have specific rights to CORE assets in the event of liquidation.

Shares of Class A common stock have no preemptive or conversion rights and are not subject to further calls or assessment by us. There are no redemption or sinking fund provisions applicable to Class A common stock. The Board of Directors retains the ability, in its sole discretion, to exchange all outstanding shares of Class B common stock into Class A common stock based on an exchange ratio determined by a 20-day trailing volume-weighted average price for each class of stock.

The initial distribution of the tracking stock was recorded as a stock dividend at fair value, which was estimated to be \$11.00 per share based on the closing price of Class B shares on the first day of regular-way trading. The effect of the equity restructuring was a \$102.9 million reduction in retained earnings and an increase of \$102.9 million to Class B common stock and additional paid-in capital during the second quarter of 2023. The Company initially distributed 8,201,956 shares of Class B common shares as well as additional restricted stock, restricted stock units, and performance stock units discussed below.

Stock-Based Compensation Awards

Outstanding stock-based awards were reclassified to Class A common stock as part of the equity restructuring discussed above. In addition, pursuant to the terms of the Company's outstanding stock-based awards, equitable adjustments were made in accordance with such terms, as discussed below, based on the same factor of 0.2 for every outstanding award. Since there were no changes in fair value, vesting conditions, or award classification, no incremental compensation expense resulted.

Our Long-Term Incentive Plan ("LTIP") is currently authorized by shareholders for the issuance of awards of up to approximately 10.9 million shares of common stock. As of December 31, 2023, there were approximately 4.6 million shares of common stock available for grant under the LTIP. The one-time distribution of Class B has no bearing on the authorization under the LTIP.

In general, granted but unvested shares are forfeited upon termination of employment, unless an employee enters into another written arrangement. However, exceptions exist for certain executives that are entitled to accelerated vesting if terminated without cause. Granted but unvested shares may not be sold, assigned, transferred, pledged or otherwise encumbered.

As of December 31, 2023, we had four types of stock-based awards outstanding: stock options, restricted stock, restricted stock units, and performance stock units. Stock-based compensation expense for all stock-based awards totaled \$12.9 million in 2023, \$8.2 million in 2022, and \$5.3 million in 2021.

Stock Options—We granted options for the purchase of a total of 937,424 shares of our common stock for \$5.34 per share to two executives on August 31, 2016. The options have a ten-year term from the grant date and are fully vested. During the third quarter of 2022, options to purchase 20,000 shares of common stock options with an intrinsic value of \$0.124 million were exercised, leaving a balance of options to purchase 917,424 shares of common stock at December 31, 2022. During 2023, stock options of 183,484 shares of Class B awards were distributed to these individuals under the equitable adjustments discussed above. During the fourth quarter of 2023, options to purchase 168,712 shares of Class A common stock were exercised and stock options for 33,742 shares of Class B common stock were exercised having a combined intrinsic value of \$2.6 million. The remaining options outstanding and unexercised at December 31, 2023 were 748,712 for Class A common stock and 149,742 for Class B common stock, which were in-the-money at December 31, 2023, having a total intrinsic value of \$10.9 million. No compensation expense was recognized for these awards in 2023, 2022, or 2021 as the awards became fully vested in previous years.

The following table summarizes the remaining stock-based awards outstanding, as well as activity for the periods:

	Restricted Stock		Restricted Stock Units		Performance Stock Units	
	Shares	Weighted Average Grant Date Fair Value	Shares	Weighted Average Grant Date Fair Value	Shares	Weighted Average Grant Date Fair Value
For Class A common stock:						
Outstanding at December 31, 2021	3,741,770	\$ 3.98	—	\$ —	—	\$ —
Granted	214,363	14.59	248,706	15.65	248,706	22.21
Vested	(809,539)	6.57	(82,903)	15.65	—	—
Forfeited	(637)	15.65	—	—	—	—
Outstanding at December 31, 2022	3,145,957	\$ 4.04	165,803	\$ 15.65	248,706	\$ 22.21
Granted	296,115	10.61	518,348	10.61	518,348	18.09
Vested	(1,695,234)	3.37	(82,903)	15.65	—	—
Forfeited	(38,484)	11.90	—	—	—	—
Outstanding at December 31, 2023	<u>1,708,354</u>	\$ 5.66	<u>601,248</u>	\$ 11.30	<u>767,054</u>	\$ 19.43
For Class B common stock:						
Initial distribution of Class B awards - June 21, 2023	680,718		136,819		153,404	
Vested	(339,035)		(16,578)		—	
Outstanding at December 31, 2023	<u>341,683</u>		<u>120,241</u>		<u>153,404</u>	

The total fair value of awards vested was \$19.7 million during 2023, \$11.0 million during 2022, and \$5.1 million during 2021.

Restricted Stock—We grant shares of restricted stock to certain senior executives, key employees and directors. These shares vest over approximately one to three and a half years from the date of grant. During the vesting period, the participants have voting rights and may receive dividends. Upon vesting, the restricted stock becomes unrestricted common shares. The fair value of the restricted stock on the date of the grant is amortized ratably over the service period. At December 31, 2023, there was \$3.2 million of total unrecognized compensation cost related to unvested restricted stock to be recognized over a weighted-average period of 1.4 years. The fair value of restricted stock awards that vested during 2023 was \$14.6 million for Class A awards and \$3.6 million for Class B awards. The fair value of the outstanding restricted stock awards was \$29.3 million for Class A awards and \$4.5 million for Class B awards based on the year-end 2023 closing stock prices.

Restricted Stock Units—We grant shares of restricted stock units to certain senior executives and key employees. These share units vest ratably over approximately three years from the date of grant. During the vesting period, the participants have no voting rights and no dividend rights; however, participants are entitled to receive dividend equivalents, which shall be subject to the same conditions applicable to the units and payable at the time the units vest. Upon vesting and within 30 days thereafter, the recipient will receive one share of common stock for each stock unit.

The grant date fair values of restricted stock units are recognized ratably over the service period. At December 31, 2023, there was \$5.2 million of total unrecognized compensation cost related to unvested restricted stock units to be recognized over the weighted average period of 1.7 years. The fair value of restricted stock unit awards that vested during 2023 was \$1.3 million for Class A awards and \$0.2 million for Class B awards. The fair value of the outstanding restricted stock unit awards was \$10.3 million for Class A awards and \$1.6 million for Class B awards based on the year-end 2023 closing stock prices.

Performance Stock Units—We grant shares of performance stock units to certain senior executives and key employees. These share units cliff-vest approximately three years from the date of grant based on the achievement of targeted performance levels related to pre-established relative total shareholder return goals. These performance stock units have the potential to be earned from 0% to 200% of target depending on actual results. During the vesting period, the participants have no voting rights and no dividend rights; however, participants are entitled to receive dividend equivalents, which shall be subject to the same conditions applicable to the units and payable at the time the units vest. Upon vesting and within 30 days thereafter, the recipient will receive one share of common stock for each stock unit.

The Company's performance stock units were valued relative to the stock price performance of a peer group of companies, which was based on a Monte Carlo simulation. The fair value of the performance stock units on the date of the grant is recognized ratably over the service period. At December 31, 2023, there was \$8.9 million of total unrecognized compensation cost related to unvested performance stock units to be recognized over the weighted average period of 1.7 years. The combined intrinsic value of the outstanding performance stock units for both classes, at target, was \$15.2 million at December 31, 2023. The value of these awards if the performance period had ended on December 31, 2023 is estimated at approximately \$27 million.

In addition, performance stock units granted in 2022 were modified during the first quarter of 2023. Modifications to these awards were made up primarily of changes in the composition of the peer group as well as changes in the way relative total shareholder return is evaluated against the updated peer group. The modification resulted in incremental fair value of \$1.2 million, which is recognized as expense over 2023 and 2024.

Performance stock units are accounted for as awards with a market condition since vesting depends on total shareholder return relative to a group of peer companies.

Taxes Related to Stock Awards—The Company routinely allows employees to surrender common stock to pay estimated taxes upon the vesting or exercise of stock-based compensation awards. The value of common stock tendered by employees is determined based on the price of the Company's common stock at the time of relinquishment. There were no other repurchases of common shares.

Dividends

Dividends in the amount of \$16.6 million, or approximately \$0.375 per share on an aggregated basis (\$0.125 per share for three quarterly dividends), were declared and paid to holders of common stock or Class A common stock during 2023. On December 6, 2023, the Company announced that the Board of Directors declared a cash dividend on Class A common stock of \$0.1375 per share to be paid on March 15, 2024 to shareholders of record on March 1, 2024. Dividends of \$6.0 million were accrued in December 2023 for the cash dividend to be paid in March 2024.

The Company also paid dividends to holders of Class B common stock during 2023 based on 20% of CORE royalty and infrastructure fees. Dividends in the amount of \$1.5 million, or approximately \$0.165 per share of Class B common stock, were paid on September 15, 2023 to shareholders of record on September 1, 2023. Dividends in the amount of \$2.2 million, or \$0.249 per share of Class B common stock, were paid on December 15, 2023 to shareholders of record on December 1, 2023. Refer to Note 15 for information regarding dividends declared for holders of Class B common stock subsequent to the date of the financial statements.

For the full year 2023, the Company recognized \$27.5 million of cash dividends declared against retained earnings for all classes of common stock, including \$6.0 million of dividends declared in December 2023 to be paid in March 2024 and \$1.2 million of forfeitable dividends subject to the vesting conditions of outstanding restricted stock units and performance stock units. For the full year 2023, the Company paid \$25.8 million of cash dividends for both classes of common stock, including \$5.5 million that were accrued at December 31, 2022.

For 2022, the Company recognized \$23.1 million of cash dividends declared against retained earnings, or approximately \$0.52 per share, including \$5.5 million that were unpaid as of December 31, 2022. For the full year 2022, the Company paid \$20.0 million of dividends, including \$2.5 million that were accrued at December 31, 2021.

NOTE 10—COMMITMENTS AND CONTINGENCIES

Environmental Liabilities—Environmental liabilities are recognized when the expenditures are considered probable and can be reasonably estimated. Measurement of liabilities is based on currently enacted laws and regulations, existing technology and undiscounted site-specific costs. Generally, such recognition would coincide with a commitment to a formal plan of action. No amounts have been recognized for environmental liabilities.

Surety Bond—In accordance with state laws, we are required to post reclamation bonds to assure that reclamation work is completed. We also have a small amount of surety bonds that secure performance obligations. Bonds outstanding at December 31, 2023 totaled approximately \$27.2 million.

Coal Leases and Associated Royalty Commitments—We lease coal reserves under agreements that require royalties to be paid as the coal is mined and sold. Many of these agreements require minimum annual royalties to be paid regardless of the amount of coal mined and sold. Total royalty expenses were \$35.0 million, \$34.2 million, and \$18.5 million for the years ended December 31, 2023, 2022, and 2021, respectively. These agreements generally have terms running through exhaustion of all the mineable and merchantable coal covered by the respective lease. Royalties or throughput payments are based on a percentage of the gross selling price received for the coal we mine. Minimum royalty obligations under coal leases total \$27.2 million and are broken down as follows: \$3.3 million for 2024, \$3.3 million for 2025, \$3.2 million for 2026, \$3.2 million for 2027, \$3.2 million for 2028, and \$11.0 million thereafter. Refer to Note 12 for information regarding related party transactions.

Contingent Transportation Purchase Commitments—We secure the ability to transport coal through rail contracts and export terminals that are sometimes funded through take-or-pay arrangements. As of December 31, 2023, the Company's remaining commitments under take-or-pay arrangements totaled \$20.2 million, most of which relates to a five-year contract that was entered into during 2023 with a total remaining commitment of \$20.0 million. The five-year contract, which runs from April 1, 2023 through March 31, 2028, includes an annual minimum commitment of \$4.5 million. The level of these commitments will be reduced at a per ton rate as such rail and export terminal services are utilized against the required minimum tonnage amounts over the contract term stipulated in such rail and export terminal contracts. We recognized \$0.8 million of contingent liabilities at December 31, 2023 related to the probable shortfall associated with our annual minimum commitment.

Litigation—From time to time, we are subject to various litigation and other claims in the normal course of business. No amounts have been accrued in the consolidated financial statements with respect to any matters.

On November 5, 2018, one of our three raw coal storage silos that fed our Elk Creek plant experienced a partial structural failure. A temporary conveying system completed in late-November 2018 restored approximately 80% of our plant capacity. We completed a permanent belt workaround and restored the preparation plant to its full processing capacity in mid-2019. Our insurance carrier, Federal Insurance Company, disputed our claim for coverage based on certain exclusions to the applicable policy and, therefore, on August 21, 2019, we filed suit against Federal Insurance Company and Chubb INA Holdings, Inc. in Logan County Circuit Court in West Virginia seeking a declaratory judgment that the partial silo collapse was an insurable event and to require coverage under our policy. Defendants removed the case to the United States District Court for the Southern District of West Virginia, and upon removal, we substituted ACE American Insurance Company as a defendant in place of Chubb INA Holdings, Inc. The trial in the matter commenced on June 29, 2021, in Charleston, West Virginia.

On July 15, 2021, the jury returned a verdict in our favor for \$7.7 million in contract damages and on July 16, 2021, made an additional award of \$25.0 million for damages for wrongful denial of the claim under *Hayseeds, Inc. v. State Farm Fire & Cas.*, 177 W. Va. 323, 352 S.E. 2d 73 (W. Va. 1986), including inconvenience and aggravation. On August 12, 2021, the defendants filed a post-trial motion for judgment as a matter of law or in the alternative to alter or amend the judgment or for a new trial. On March 4, 2022, the court entered its memorandum opinion and order on the motion reducing the jury award to a total of \$1.8 million, including pre-judgment interest, and also vacated and set aside, in its entirety, the jury award of *Hayseeds* damages. The same day, the court entered the judgment in accordance with the memorandum opinion and order.

On April 1, 2022, we filed a notice of appeal with the U.S. Court of Appeals for the Fourth Circuit. On July 20, 2023, the court rendered a decision reinstating the jury's \$7.7 million contract damages verdict. The court further determined that we are entitled to attorney's fees in an amount to be determined on remand. Finally, the court held that we are entitled to *Hayseeds* damages for wrongful denial of the claim but remanded for a new trial on the amount of such damages after affirming that the original \$25 million award was excessive. On August 3, 2023, the Defendants-Appellees filed a Petition of Rehearing and Rehearing *En Banc* with the Fourth Circuit. The petition was denied by order dated August 15, 2023. On August 29, 2023, the court clarified that the amount of attorney's fees to be determined on remand included appellate fees. On September 8, 2023, the court entered its amended judgment, which awarded post-judgment interest on the previously awarded and reinstated verdict related to contract (compensatory) damages and the Fourth Circuit thereafter issued its mandate on October 2, 2023. The matter is now pending before the District Court for a new trial on damages for inconvenience and aggravation as well as the court's determination and award of attorney's fees.

The defendants fully paid the portion of the judgment related to contract (compensatory) damages in the court's order and that portion of the matter is considered closed. The Company recognized a \$7.8 million gain during 2023, which was recorded in *Other income (expense), net* on the Consolidated Statements of Operations. Of this amount, \$2.0 million was included in *Insurance proceeds related to property, plant, and equipment* as part of investing activities on the Consolidated Statements of Cash Flows and the remaining amount was included in operating activities.

NOTE 11—REVENUES

Our revenue is derived from contracts for the sale of coal and is recognized when the performance obligations under the contracts are satisfied, which is at the point in time control is transferred to our customer. Generally, domestic sales contracts have terms of about one year and the pricing is typically fixed. Export sales have spot or term contracts, and pricing can be either a fixed price or a price derived against index-based pricing mechanisms. Sales completed with

delivery to an export terminal are reported as export revenue. Disaggregated information about our revenue is presented below:

<i>(In thousands)</i>	Year ended December 31,		
	2023	2022	2021
Coal Sales			
North American revenue	\$ 227,484	\$ 328,322	\$ 143,946
Export revenue, excluding Canada	466,040	237,366	139,448
Total revenue	<u>\$ 693,524</u>	<u>\$ 565,688</u>	<u>\$ 283,394</u>

Fourth quarter 2023 revenue that can be derived from the Company's periodic filings includes a \$1.3 million upward adjustment to revenue related to performance obligations that were satisfied in the previous quarter. Fourth quarter 2022 revenue that can be derived from the Company's periodic filings includes a \$2.8 million downward adjustment to revenue related to performance obligations that were satisfied in the previous quarter. These adjustments were due to true-ups of previous estimates for provisional pricing provisions.

As of December 31, 2023, the Company had outstanding performance obligations of approximately 1.4 million tons for contracts with fixed sales prices averaging \$166 per ton and 2.1 million additional tons for contracts with index-based pricing mechanisms. The Company expects to satisfy approximately 88% of the committed tons in 2024 and the remainder in 2025. Variable amounts, including index-based prices, have not been estimated for the purpose of disclosing remaining performance obligations as permitted under the revenue recognition guidance when variable consideration is allocated entirely to a wholly unsatisfied performance obligation.

Sales into individual foreign countries equaling or exceeding 10% of our total revenues included Germany and Canada, each of which represented 14% of 2023 revenues, as well as Brazil, which represented 10% of 2023 revenues. Sales into Canada and South Africa were 12% and 10%, respectively, of 2022 revenues. The Company used the final export destination of the goods as the basis for these disclosures.

NOTE 12—RELATED PARTY TRANSACTIONS

Mineral Lease and Surface Rights Agreements—Prior to the acquisition of Ramaco Coal, as discussed in Note 4, much of the coal reserves and surface rights that we controlled were acquired through a series of mineral leases and surface rights agreements with Ramaco Coal, who was a related party. Royalties paid to Ramaco Coal in 2022 prior to the acquisition totaled \$3.1 million. Royalties paid to Ramaco Coal in 2021 totaled \$5.7 million.

Legal Services—Some of the professional legal services we receive are provided by Jones & Associates (“Jones”), a related party. Legal services incurred for Jones in 2023 and 2022 totaled zero and \$0.8 million, respectively. Legal services payable to Jones were zero (paid in full in 2023) and \$0.6 million at December 31, 2023 and December 31, 2022, respectively, and were included in *Accrued liabilities* on the Consolidated Balance Sheet.

Ramaco Coal Deferred Purchase Price—As part of the financing of the acquisition of Ramaco Coal, as discussed in Note 4, we incurred interest expense of \$1.8 million in 2023 and \$3.0 million in 2022. The outstanding principal balance of the Ramaco Coal Loan was zero and \$40.0 million at December 31, 2023 and December 31, 2022, respectively. Refer to Note 7 for additional information regarding the terms of the financing. In addition, the Company owed an additional \$0.4 million to Yorktown Partners at December 31, 2023, in connection with the Ramaco Coal acquisition, which is included in *Accounts payable* on the Consolidated Balance Sheet.

Ramaco Foundation—The Company made a charitable cash contribution of \$1.0 million during 2022 to the Ramaco Foundation, which was recognized in *Other income (expense), net*, on the Consolidated Statement of Operations. The Ramaco Foundation is an unconsolidated not-for-profit organization whose board of directors includes several members of the Company's management and board of directors.

Other Professional Services—The Company has also entered into professional services with three other related parties, which have been aggregated due to immateriality. Professional services incurred for these related parties were \$0.3 million in 2023 and \$0.1 million in 2022, respectively.

NOTE 13—INCOME TAXES

Ramaco Resources, Inc. is organized as a corporation under the laws of Delaware. Ramaco Resources, Inc. files a consolidated U.S. federal tax return with its wholly owned subsidiaries. All our operations are wholly within the United States, but our products are sold to customers worldwide.

Income tax expense consisted of the following:

(In thousands)	Years ended December 31,		
	2023	2022	2021
Current taxes:			
Federal	\$ 2,817	\$ 517	\$ —
State	819	407	3
Current taxes	3,636	924	3
Deferred taxes:			
Federal	17,323	28,389	6,518
State	1,391	840	(1,874)
Deferred taxes	18,714	29,229	4,644
Provision for income tax expense, net	<u>\$ 22,350</u>	<u>\$ 30,153</u>	<u>\$ 4,647</u>

The items accounting for differences between income taxes computed at the federal statutory rate and the provision recorded for income taxes were as follows:

(In thousands)	Years ended December 31,		
	2023	2022	2021
Income taxes computed at the federal statutory rate	\$ 21,938	\$ 30,701	\$ 9,325
Effect of:			
State taxes, net of federal benefits	1,210	1,422	796
State tax rate changes, net of federal benefits	350	(546)	(2,274)
Percentage depletion	(1,717)	(3,314)	(3,363)
Stock-based compensation	(3,395)	(1,499)	(194)
162(m) compensation limitation	5,716	3,481	—
Foreign-derived intangible income deduction	(1,475)	—	—
Other, net	(277)	(92)	357
Total	<u>\$ 22,350</u>	<u>\$ 30,153</u>	<u>\$ 4,647</u>

During the current year, there was a significant increase in the foreign-derived intangible income deduction related to our worldwide sales. The amount of excess tax benefits for stock-based compensation and subsequently the impact of IRC Section 162(m) for covered employees increased in the current year due to stock exercises.

Deferred tax assets and liabilities were as follows:

(In thousands)	<u>December 31,</u>	
	<u>2023</u>	<u>2022</u>
Deferred tax assets:		
Loss carryforwards U.S. - Federal/States	\$ 1,801	\$ 6,598
Asset retirement obligations	6,428	6,359
Accrued expenses	3,857	3,257
Stock-based compensation	2,916	2,249
Total deferred tax assets	<u>15,002</u>	<u>18,463</u>
Deferred tax liabilities:		
Property, plant, and equipment	<u>(69,354)</u>	<u>(54,100)</u>
Net deferred tax liabilities	<u>\$ (54,352)</u>	<u>\$ (35,637)</u>

During the current period, the federal net operating loss carryforwards were fully utilized. As of December 31, 2023, there were no federal net operating loss carryforwards remaining. Total state loss carryforwards were approximately \$35 million. The Company's net operating loss carryforwards are not subject to statutory expiration.

No valuation allowance was recognized by the Company for deferred tax assets as of December 31, 2023 or December 31, 2022.

We are subject to federal, state, and local income taxes in the United States. Significant judgment is required in evaluating tax positions taken and determining the provision for income taxes. As of December 31, 2023, we do not have any unrecognized tax benefits. The tax years 2020 through 2022 remain subject to examination by the taxing authorities. We are not currently under examination by any taxing authorities.

Cash paid for income taxes totaled \$15.5 million in 2022. The Company recognized an income tax receivable of \$14.6 million included in prepaid expenses and other current assets at December 31, 2022. Cash paid for income taxes totaled \$0.8 million for 2023 before consideration of refunds received. The Company received a refund of \$11.8 million during 2023, which drove the decrease in prepaid expenses and other current assets on the balance sheet compared to December 31, 2022.

NOTE 14—EARNINGS (LOSS) PER SHARE

Earnings per share ("EPS") is not presented retrospectively for periods prior to the issuance of the tracking stock as the tracking stock was not a part of the Company's capital structure during those periods and the issuance of the tracking stock changes the common shareholders' relative residual interest in the Company. Therefore, EPS is presented for the Company's single class of common stock up to the time the tracking stock was issued. EPS is presented prospectively under the two-class method starting on the date of initial distribution of the tracking stock. Refer to Note 9 for information related to the Company's tracking stock.

The computation of basic and diluted EPS is shown on the following page:

(In thousands, except per share amounts)

	Years ended December 31,		
	2023	2022	2021
Earnings attribution			
Single class of common stock (through 6/20/2023) *	\$ 31,382	\$ 116,042	\$ 39,759
Class A common stock (6/21/2023 - 12/31/2023)	44,663	—	—
Class A restricted stock awards (6/21/2023 - 12/31/2023)	1,897	—	—
Class B common stock (6/21/2023 - 12/31/2023)	3,498	—	—
Class B restricted stock awards (6/21/2023 - 12/31/2023)	144	—	—
Forfeitable dividends declared on unvested stock-based awards	729	—	—
Net income	<u>\$ 82,313</u>	<u>\$ 116,042</u>	<u>\$ 39,759</u>

* Common stock and restricted stock participated in earnings 1:1 and are shown on a combined basis through 6/20/2023 consistent with historical presentation

	Jan. 1 - June 20,	Years ended December 31,	
	2023	2022	2021
EPS data for single class of common stock through 6/20/2023			
Numerator			
Net earnings	\$ 31,382	\$ 116,042	\$ 39,759
Denominator			
Weighted average shares used to compute basic earnings per share *	44,344	44,164	43,964
Dilutive effect of stock option awards	381	532	293
Dilutive effect of restricted stock units	—	6	—
Dilutive effect of performance stock units	27	—	—
Weighted average shares used to compute diluted earnings per share	<u>44,752</u>	<u>44,702</u>	<u>44,257</u>

Earnings per common share (single class of common stock)

Basic	\$ 0.71	\$ 2.63	\$ 0.90
Diluted	\$ 0.70	\$ 2.60	\$ 0.90

June 21, 2023 - December 31, 2023

	Class A	Class B
	EPS data for dual-class common stock 6/21/2023 - 12/31/2023	
Numerator		
Net earnings	\$ 44,663	\$ 3,498
Denominator		
Weighted average shares used to compute basic earnings per share **	42,115	8,428
Dilutive effect of stock option awards	482	111
Dilutive effect of restricted stock units	157	48
Dilutive effect of performance stock units	436	111
Weighted average shares used to compute diluted earnings per share	<u>43,190</u>	<u>8,698</u>

Earnings per common share (dual-class structure)

Basic	\$ 1.06	\$ 0.42
Diluted	\$ 1.03	\$ 0.40

** Does not include unvested restricted stock, which averaged 1.8 million and 0.4 million for Class A and Class B, respectively, for the period June 21, 2023 through December 31, 2023

Unvested restricted stock awards have the right to receive nonforfeitable dividends on the same basis as common shares; therefore, unvested restricted stock is considered a participating security for the purpose of calculating EPS. Historically, the Company has shown EPS for its common stock and unvested restricted stock on a combined basis since both instruments participate in net earnings on the same basis and the resulting EPS is typically the same. Starting under the two-class method, the Company reports separately the net earnings allocated away from holders of Class A and Class B common stock to holders of unvested restricted stock awards.

Unvested restricted stock units and performance stock units include forfeitable dividend rights that are subject to the vesting conditions of the underlying awards; therefore, these awards are not considered participating securities and should not be allocated undistributed earnings for the purpose of calculating EPS. However, dividends or dividend equivalents declared and charged to retained earnings for these awards reduce the amount of net earnings available for distribution to common stockholders and should be reflected as such under the two-class method.

For accounting purposes, Class B's participation rights are, in substance, discretionary based on the power of the Company's Board of Directors to add or modify expense allocation policies, redefine CORE assets, and redetermine CORE's per-ton usage fees at any time, in its sole discretion, without shareholder approval. Therefore, no amount of the Company's net earnings shall be allocated to Class B for the purpose of calculating EPS other than actual dividends declared during the period for the tracking stock. Refer to Note 9 for information regarding dividends declared on Class B common stock.

Diluted EPS was calculated using the treasury stock method for stock options and restricted stock units. For performance stock units, the awards were first evaluated under the contingently issuable shares guidance, which requires a determination as to whether shares would be issuable if the end of the reporting period were the end of the contingency period. For shares determined to be issuable under performance stock unit awards, the treasury stock method was then applied to determine the dilutive impact of the awards, if any. Unvested restricted stock awards are considered potential common shares as well as participating securities, as discussed previously, and were included in diluted EPS using the more dilutive of the treasury stock method or the two-class method. Since these awards share in dividends on a 1:1 basis with common shares, applying the treasury stock method would be antidilutive compared to the basic EPS calculation that allocates earnings to participating securities under the two-class method discussed previously.

Diluted EPS for the period from January 1, 2023 through June 20, 2023, the period for which a single class of common stock existed, excluded all outstanding restricted stock units, or 684,151 units in total, because the effect would have been antidilutive under the treasury stock method. In addition, diluted EPS for the same period excluded outstanding performance stock units originally granted in 2022, or 248,706 units at target, based on the guidance for contingently issuable shares, which requires exclusion when shares would not be issuable if the end of the reporting period were the end of the contingency period.

For the period from June 21, 2023 through December 31, 2023, the Company's ability to convert Class B common shares into Class A common shares, as discussed previously in Note 9, is a contingency that will not be reflected in the diluted EPS for Class A under the if-converted method until such time that the required Board resolutions occur, if ever.

Diluted EPS for 2022 excluded 248,706 of target performance stock units based on the guidance for contingently issuable shares discussed earlier.

NOTE 15—SUBSEQUENT EVENTS

On February 1, 2024, the Company announced that the Board of Directors declared a cash dividend of \$0.2416 per share of Class B common stock, which will be payable on March 15, 2024 to shareholders of record on March 1, 2024.

In February 2024, the Company completed the purchase of an existing coal preparation plant, which will be relocated to the Company's Maben Complex. The purchase price of the plant is \$3 million. The Company anticipates

spending an additional \$8 million in initial development capital expenditures related to the plant in 2024. These costs would include amounts related to the relocation, reassembly, and expansion of the facility at Maben.

* * * * *

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

Management's Evaluation of Disclosure Controls and Procedures. As of December 31, 2023, our management, under the supervision and with the participation of our principal executive officer and principal financial officer, evaluated the effectiveness of our disclosure controls and procedures pursuant to applicable Exchange Act rules. Based on this evaluation, management concluded that the Company's disclosure controls and procedures as of December 31, 2023 were not effective at the reasonable assurance level as a result of the material weakness in internal control over financial reporting disclosed below. The Company's remediation plan for the material weakness in internal control over financial reporting is also discussed below.

Management's Annual Report on Internal Control over Financial Reporting. Management is responsible for establishing and maintaining adequate internal control over financial reporting. Management used the criteria described in *Internal Control-Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO") to evaluate the effectiveness of the Company's internal control over financial reporting as of December 31, 2023. Based on this evaluation, management identified a material weakness related to a pervasive lack of sufficient documentation of accounting policies, procedures, and controls. This lack of sufficient documentation does not allow management to effectively assess its relevant risks and key controls to properly test for design and operating effectiveness. A material weakness is a control deficiency, or a combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis. Management concluded that its internal control over financial reporting was ineffective as of December 31, 2023.

The effectiveness of our internal control over financial reporting as of December 31, 2023 has been audited by Cherry Bekaert, an independent registered public accounting firm, as stated in their report, which is included herein.

Remediation Plan. We are currently developing a plan of remediation to address this material weakness, which will include assessing, redesigning, and implementing modifications of our internal controls. We will not be able to fully remediate this material weakness until these steps have been completed and subsequent validation and testing of these internal controls have demonstrated their operating effectiveness over a sustained period of financial reporting cycles. Once the remediation plan is fully developed, we will be implementing process, control, and documentation improvements to address the above material weakness that include, but are not limited to, designing and implementing specific management review procedures to ensure completeness and accuracy of key financial and non-financial data utilized in our business; and implementing improved policies, procedures, and control activities over key financial data to ensure accuracy and completeness of this data as used in the aforementioned management review procedures.

Changes in Internal Control Over Financial Reporting. Except for the material weakness and remediation actions described above, there were no significant changes in our internal control over financial reporting during our *fourth* quarter that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information

During the fourth quarter of 2023, none of the Company's directors or executive officers adopted, modified, or terminated a Rule 10b5-1 trading arrangement or a non-Rule 10b5-1 trading arrangement (each as defined in Item 408 of Regulation S-K under the Securities Exchange Act of 1934, as amended), except as follows:

On December 12, 2023, Jason Fannin, the Company's chief commercial officer, adopted a trading plan intended to satisfy the affirmative defense of Rule 10b5-1(c). The duration of the plan is from March 20, 2024 until August 15, 2024 and 155,993 shares of Class A common stock and 31,332 shares of Class B common stock may be sold pursuant to the plan.

Item 9C. Disclosures Regarding Foreign Jurisdiction that Prevent Inspections.

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The information required by this Item is incorporated herein by reference to our Proxy Statement for the 2024 Annual Meeting of Stockholders, which is expected to be filed with the SEC within 120 days after the close of our fiscal year.

Item 11. Executive Compensation

The information required by this Item is incorporated herein by reference to our Proxy Statement for the 2024 Annual Meeting of Stockholders, which is expected to be filed with the SEC within 120 days after the close of our fiscal year.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The information required by this Item is incorporated herein by reference to our Proxy Statement for the 2024 Annual Meeting of Stockholders, which is expected to be filed with the SEC within 120 days after the close of our fiscal year.

Item 13. Certain Relationships and Related Persons Transactions

The information required by this Item is incorporated herein by reference to our Proxy Statement for the 2024 Annual Meeting of Stockholders, which is expected to be filed with the SEC within 120 days after the close of our fiscal year.

Item 14. Principal Accountant Fees and Services

The information required by this Item is incorporated herein by reference to our Proxy Statement for the 2024 Annual Meeting of Stockholders, which is expected to be filed with the SEC within 120 days after the close of our fiscal year.

PART IV

Item 15. Exhibits and Financial Statement Schedules

(a) *The following documents are filed as part of this Annual Report:*

- (1) Reports of Independent Registered Public Accounting Firms
 - Consolidated Balance Sheets as of December 31, 2023 and 2022
 - Consolidated Statements of Operations for the Years Ended December 31, 2023, 2022, and 2021
 - Consolidated Statements of Equity for the Years Ended December 31, 2023, 2022, and 2021
 - Consolidated Statements of Cash Flows for the Years Ended December 31, 2023, 2022 and 2021
 - Notes to Consolidated Financial Statements
- (2) Financial Statement Schedules. All schedules are omitted because they are not applicable or because the information is immaterial or disclosed elsewhere in the Consolidated Financial Statements and Notes thereto.

(b) *Exhibits*

Exhibit Number	Description
2.1	Master Reorganization Agreement, dated February 1, 2017, by and among Ramaco Resources, Inc., Ramaco Development, LLC, Ramaco Merger Sub, LLC and the other parties named therein (incorporated by reference to Exhibit 2.1 of the Company's Current Report on Form 8-K (File No. 001-38003) filed with the Commission on February 7, 2017)
2.2	Purchase and Sale Agreement, dated February 23, 2022, by and among Ramaco Development, LLC, Ramaco Resources, Inc., Ramaco Coal Holdings, LLC, and Ramaco Coal, LLC (incorporated by reference to Exhibit 2.1 of the Company's Current Report on Form 8-K (File No. 001-38003) filed with the SEC on February 24, 2022)
2.3	Securities Purchase Agreement, dated as of August 8, 2022, between Ramaco Development, LLC and Appleton Coal LLC (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K (File No. 001-38003) filed with the SEC on August 8, 2022)
2.4	Asset Purchase Agreement, dated as of October 26, 2021, among Ramaco Resources, Inc., Coronado IV LLC, Buchanan Minerals, LLC and Buchanan Mining Company, LLC (incorporated by reference to Exhibit 10.1 of the Company's Current Report on Form 8-K (File No. 001-38003) filed with the Commission on October 26, 2021)
3.1	Second Amended and Restated Certificate of Incorporation of Ramaco Resources, Inc. (incorporated by reference to Exhibit 3.1 of the Company's Current Report on Form 8-K (File No. 001-38003) filed with the Commission on June 12, 2023)
3.2	Amended and Restated Bylaws of Ramaco Resources, Inc. (incorporated by reference to Exhibit 3.2 of the Company's Current Report on Form 8-K (File No. 001-38003) filed with the Commission on February 14, 2017)

- 3.3 Amendment No. 1 to the Amended and Restated Bylaws of Ramaco Resources, Inc. (incorporated by reference to Exhibit 3.2 of the Company's Current Report on Form 8-K (File No. 001-38003) filed with the Commission on December 15, 2020)
- 4.1 Form of Common Stock Certificate (incorporated by reference to Exhibit 4.1 of the Company's Registration Statement on Form S-1 (File No. 333-215363) filed with the Commission on December 29, 2016)
- 4.2 Registration Rights Agreement, dated as of February 8, 2017, by and among Ramaco Resources, Inc. and the stockholders named therein (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K (File No. 001-38003) filed with the Commission on February 14, 2017)
- 4.3 Shareholders' Agreement, dated as of February 8, 2017, by and among Ramaco Resources, Inc., Yorktown Energy Partners IX, L.P., Yorktown Energy Partners X, L.P., Yorktown Energy Partners XI, L.P., Energy Capital Partners Mezzanine Opportunities Fund, LP, Energy Capital Partners Mezzanine Opportunities Fund A, LP, and ECP Mezzanine B (Ramaco IP), LP. (incorporated by reference to Exhibit 4.2 of the Company's Current Report on Form 8-K (File No. 001-38003) filed with the Commission on February 14, 2017)
- *4.4 Description of Securities
- 4.5 Indenture, dated as of July 13, 2021, between Ramaco Resources, Inc. and Wilmington Savings Fund Society, FSB, as trustee (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K (File No. 001-38003) filed with the Commission on July 13, 2021)
- 4.6 First Supplemental Indenture, dated as of July 13, 2021, between Ramaco Resources, Inc. and Wilmington Savings Fund Society, FSB, as trustee (incorporated by reference to Exhibit 4.2 of the Company's Current Report on Form 8-K (File No. 001-38003) filed with the Commission on July 13, 2021)
- 4.7 Form of 9.00% Senior Note due 2026 (incorporated by reference to Exhibit 4.2.1 of the Company's Current Report on Form 8-K (File No. 001-38003) filed with the Commission on July 13, 2021)
- †10.1 Ramaco Resources, Inc. Long-Term Incentive Plan (incorporated by reference to Exhibit 4.3 of the Company's Registration Statement on Form S-8 (File No. 333-215913) filed with the Commission on February 6, 2017)
- 10.2 Berwind Mutual Cooperation Agreement, dated August 20, 2015, by and between Ramaco Resources, LLC and Ramaco Central Appalachia, LLC (incorporated by reference to Exhibit 10.3 of the Company's Registration Statement on Form S-1 (File No. 333-215363) filed with the Commission on December 29, 2016)
- 10.3 Elk Creek Mutual Cooperation Agreement, dated August 20, 2015, by and between Ramaco Resources, LLC and Ramaco Central Appalachia, LLC (incorporated by reference to Exhibit 10.4 of the Company's Registration Statement on Form S-1 (File No. 333-215363) filed with the Commission on December 29, 2016)

- 10.4 Indemnification Agreement, dated August 20, 2015, by and between Ramaco Coal, LLC and Ramaco Development, LLC (incorporated by reference to Exhibit 10.5 of the Company's Registration Statement on Form S-1 (File No. 333-215363) filed with the Commission on December 29, 2016)
- 10.5 RAM Mine Mutual Cooperation Agreement, dated August 20, 2015, by and between RAM Mining, LLC and Ramaco Northern Appalachia, LLC (incorporated by reference to Exhibit 10.6 of the Company's Registration Statement on Form S-1 (File No. 333-215363) filed with the Commission on December 29, 2016)
- 10.6 Promissory Note, dated August 31, 2016, by and between Ramaco Development, LLC, as maker, and Ramaco Coal, LLC, as noteholder (incorporated by reference to Exhibit 10.7 of the Company's Registration Statement on Form S-1 (File No. 333-215363) filed with the Commission on December 29, 2016)
- 10.7 Corporate Guaranty, dated August 20, 2015, by and between Ramaco Coal, LLC, as guarantor, and RAMACO Development, LLC as obligee (incorporated by reference to Exhibit 10.8 of the Company's Registration Statement on Form S-1 (File No. 333-215363) filed with the Commission on December 29, 2016)
- 10.8 Corporate Guaranty, dated August 20, 2015, by and between RAMACO Development, LLC, as guarantor, and Ramaco Coal, LLC, as obligee (incorporated by reference to Exhibit 10.9 of the Company's Registration Statement on Form S-1 (File No. 333-215363) filed with the Commission on December 29, 2016)
- 10.9 Berwind Sublease Agreement, dated August 20, 2015, by and between Ramaco Central Appalachia, LLC and Ramaco Resources, LLC (incorporated by reference to Exhibit 10.10 of the Company's Registration Statement on Form S-1 (File No. 333-215363) filed with the Commission on December 29, 2016)
- 10.10 First Amendment to Berwind Lease Agreement and Sublease, dated February 2016, by and among Berwind Land Company, Ramaco Central Appalachia, LLC and Ramaco Resources, LLC (incorporated by reference to Exhibit 10.11 of the Company's Registration Statement on Form S-1 (File No. 333-215363) filed with the Commission on December 29, 2016)
- 10.11 Second Amendment to Berwind Sublease, dated August 31, 2016, by and between Ramaco Central Appalachia, LLC and Ramaco Resources, LLC (incorporated by reference to Exhibit 10.12 of the Company's Registration Statement on Form S-1 (File No. 333-215363) filed with the Commission on December 29, 2016)
- 10.12 Third Amendment to Berwind Lease Agreement and Consent to Sublease, dated December 19, 2017, by and between Berwind Land Company and Ramaco Central Appalachia, LLC (incorporated by reference to Exhibit 10.12 of the Company's Annual Report on Form 10-K (File No. 333-215913) filed with the Commission on February 20, 2020)
- 10.13 Elk Creek Coal Lease Agreement, dated August 20, 2015, by and between Ramaco Central Appalachia, LLC and Ramaco Resources, LLC (incorporated by reference to Exhibit 10.13 of the Company's Registration Statement on Form S-1 (File No. 333-215363) filed with the Commission on December 29, 2016)
- 10.14 Amendment No. 1 to Elk Creek Coal Lease Agreement, dated December 31, 2015, by and between Ramaco Central Appalachia, LLC and Ramaco Resources, LLC (incorporated by reference to Exhibit 10.14 of the Company's Registration Statement on Form S-1 (File No. 333-215363) filed with the Commission on December 29, 2016)
- 10.15 Amendment No. 2 to Elk Creek Coal Lease Agreement, dated March 31, 2016, by and between Ramaco Central Appalachia, LLC and Ramaco Resources, LLC (incorporated by reference to Exhibit 10.15 of the Company's Registration Statement on Form S-1 (File No. 333-215363) filed with the Commission on December 29, 2016)

- 10.16 Amendment No. 3 to Elk Creek Coal Lease Agreement, dated August 31, 2016, by and between Ramaco Central Appalachia, LLC and Ramaco Resources, LLC (incorporated by reference to Exhibit 10.16 of the Company's Registration Statement on Form S-1 (File No. 333-215363) filed with the Commission on December 29, 2016)
- 10.17 Amendment No. 4 to Elk Creek Coal Lease Agreement, dated January 12, 2017, by and between Ramaco Central Appalachia, LLC and Ramaco Resources, LLC (incorporated by reference to Exhibit 10.17 of the Company's Annual Report on Form 10-K (File No. 333-215913) filed with the Commission on February 20, 2020)
- 10.18 Amendment No. 5 to Elk Creek Coal Lease Agreement, dated September 28, 2018, by and between Ramaco Central Appalachia, LLC and Ramaco Resources, LLC (incorporated by reference to Exhibit 10.18 of the Company's Annual Report on Form 10-K (File No. 333-215913) filed with the Commission on February 20, 2020)
- 10.19 Amendment No. 6 to Elk Creek Coal Lease Agreement, dated December 21, 2018, by and between Ramaco Central Appalachia, LLC and Ramaco Resources, LLC (incorporated by reference to Exhibit 10.19 of the Company's Annual Report on Form 10-K (File No. 333-215913) filed with the Commission on February 20, 2020)
- 10.20 Amendment No. 7 to Elk Creek Coal Lease Agreement, dated February 1, 2019, by and between Ramaco Central Appalachia, LLC and Ramaco Resources, LLC (incorporated by reference to Exhibit 10.20 of the Company's Annual Report on Form 10-K (File No. 333-215913) filed with the Commission on February 20, 2020)
- 10.21 Elk Creek Surface Rights Lease Agreement, dated August 20, 2015, by and between Ramaco Central Appalachia, LLC and Ramaco Resources, LLC (incorporated by reference to Exhibit 10.17 of the Company's Registration Statement on Form S-1 (File No. 333-215363) filed with the Commission on December 29, 2016)
- 10.22 Amendment No. 1 to Elk Creek Surface Rights Lease Agreement, dated December 31, 2015, by and between Ramaco Central Appalachia, LLC and Ramaco Resources, LLC (incorporated by reference to Exhibit 10.18 of the Company's Registration Statement on Form S-1 (File No. 333-215363) filed with the Commission on December 29, 2016)
- 10.23 Amendment No. 2 to Elk Creek Surface Rights Lease Agreement, dated March 31, 2016, by and between Ramaco Central Appalachia, LLC and Ramaco Resources, LLC (incorporated by reference to Exhibit 10.19 of the Company's Registration Statement on Form S-1 (File No. 333-215363) filed with the Commission on December 29, 2016)
- 10.24 Amendment No. 3 to Elk Creek Surface Rights Lease Agreement, dated August 31, 2016, by and between Ramaco Central Appalachia, LLC and Ramaco Resources, LLC (incorporated by reference to Exhibit 10.20 of the Company's Registration Statement on Form S-1 (File No. 333-215363) filed with the Commission on December 29, 2016)
- 10.25 Mutual Services Agreement, dated December 22, 2017, by and between Ramaco Development, LLC and Ramaco Coal, LLC (incorporated by reference to Exhibit 10.23 of the Company's Annual Report on Form 10-K (File No. 001-38003) filed with the Commission on March 21, 2018)
- 10.26 NRP Sublease Agreement, dated August 19, 2015, by and between Ramaco Central Appalachia, LLC and Ramaco Resources, LLC (incorporated by reference to Exhibit 10.24 of the Company's Registration Statement on Form S-1 (File No. 333-215363) filed with the Commission on December 29, 2016)
- 10.27 Amendment No. 1 to NRP Sublease Agreement, dated August 31, 2016, by and between Ramaco Central Appalachia, LLC and Ramaco Resources, LLC (incorporated by reference to Exhibit 10.25 of the

- Company's Registration Statement on Form S-1 (File No. 333-215363) filed with the Commission on December 29, 2016)
- 10.28 Amended and Restated Lease Agreement, dated August 20, 2015, by and among Ramaco Northern Appalachia, LLC, RAM Farms, LLC, RAM Mining, LLC and RAMACO Mining, LLC (incorporated by reference to Exhibit 10.26 of the Company's Registration Statement on Form S-1 (File No. 333-215363) filed with the Commission on December 29, 2016)
 - 10.29 Amendment No. 1 to Amended and Restated Lease Agreement, dated December 31, 2015, by and among Ramaco Northern Appalachia, LLC, RAM Farms, LLC and RAM Mining, LLC (incorporated by reference to Exhibit 10.27 of the Company's Registration Statement on Form S-1 (File No. 333-215363) filed with the Commission on December 29, 2016)
 - 10.30 Amendment No. 2 to Amended and Restated Lease Agreement, dated March 31, 2016, by and among Ramaco Northern Appalachia, LLC, RAM Farms, LLC and RAM Mining, LLC (incorporated by reference to Exhibit 10.28 of the Company's Registration Statement on Form S-1 (File No. 333-215363) filed with the Commission on December 29, 2016)
 - 10.31 Amendment No. 3 to Amended and Restated Lease Agreement, dated August 31, 2016, by and among Ramaco Northern Appalachia, LLC, RAM Farms, LLC and RAM Mining, LLC (incorporated by reference to Exhibit 10.29 of the Company's Registration Statement on Form S-1 (File No. 333-215363) filed with the Commission on December 29, 2016)
 - †10.32 Ramaco Development, LLC 2016 Membership Unit Option Plan (incorporated by reference to Exhibit 10.30 of the Company's Registration Statement on Form S-1 (File No. 333-215363) filed with the Commission on December 29, 2016)
 - †10.33 Form of Ramaco Resources, Inc. Stock Option Notice and Agreement (incorporated by reference to Exhibit 10.31 of the Company's Registration Statement on Form S-1 (File No. 333-215363) filed with the Commission on December 29, 2016)
 - †10.34 Form of Amendment to Option Agreement (incorporated by reference to Exhibit 10.32 of the Company's Registration Statement on Form S-1 (File No. 333-215363) filed with the Commission on December 29, 2016)
 - †10.35 Indemnification Agreement (Randall Atkins) (incorporated by reference to Exhibit 10.1 of the Company's Current Report on Form 8-K (File No. 001-38003) filed with the Commission on February 14, 2017)
 - †10.36 Indemnification Agreement (Michael Bauersachs) (incorporated by reference to Exhibit 10.2 of the Company's Current Report on Form 8-K (File No. 001-38003) filed with the Commission on February 14, 2017)
 - †10.37 Indemnification Agreement (Mark Clemens) (incorporated by reference to Exhibit 10.3 of the Company's Current Report on Form 8-K (File No. 001-38003) filed with the Commission on February 14, 2017)
 - †10.38 Indemnification Agreement (Patrick C. Graney) (incorporated by reference to Exhibit 10.4 of the Company's Current Report on Form 8-K (File No. 001-38003) filed with the Commission on February 14, 2017)

- †10.39 Indemnification Agreement (W. Howard Keenan, Jr.) (incorporated by reference to Exhibit 10.5 of the Company's Current Report on Form 8-K (File No. 001-38003) filed with the Commission on February 14, 2017)
- †10.40 Indemnification Agreement (Trent Kososki) (incorporated by reference to Exhibit 10.6 of the Company's Current Report on Form 8-K (File No. 001-38003) filed with the Commission on February 14, 2017)
- †10.41 Indemnification Agreement (Bryan H. Lawrence) (incorporated by reference to Exhibit 10.7 of the Company's Current Report on Form 8-K (File No. 001-38003) filed with the Commission on February 14, 2017)
- †10.42 Indemnification Agreement (Tyler Reeder) (incorporated by reference to Exhibit 10.8 of the Company's Current Report on Form 8-K (File No. 001-38003) filed with the Commission on February 14, 2017)
- †10.43 Indemnification Agreement (Marc Solochek) (incorporated by reference to Exhibit 10.9 of the Company's Current Report on Form 8-K (File No. 001-38003) filed with the Commission on February 14, 2017)
- †10.44 Indemnification Agreement (Richard M. Whiting) (incorporated by reference to Exhibit 10.10 of the Company's Current Report on Form 8-K (File No. 001-38003) filed with the Commission on February 14, 2017)
- †10.45 Indemnification Agreement (Michael Windisch) (incorporated by reference to Exhibit 10.11 of the Company's Current Report on Form 8-K (File No. 001-38003) filed with the Commission on February 14, 2017)
- †10.46 Indemnification Agreement (Bruce E. Cryder) (incorporated by reference to Exhibit 10.2 of the Company's Current Report on Form 8-K (File No. 001-38003) filed with the Commission on July 5, 2017)
- †10.47 Indemnification Agreement (Christopher L. Blanchard) (incorporated by reference to Exhibit 10.1 of the Company's Current Report on Form 8-K (File No. 001-38003) filed with the Commission on December 29, 2017)
- †10.48 Indemnification Agreement (Peter Leidel) (incorporated by reference to Exhibit 10.48 of the Company's Annual Report on Form 10-K (File No. 001 38003) filed with the Commission on February 20, 2020)
- †10.49 Indemnification Agreement (Trent Kososki) (incorporated by reference to Exhibit 10.49 of the Company's Annual Report on Form 10-K (File No. 001 38003) filed with the Commission on February 20, 2020)
- †10.50 Indemnification Agreement (C. Lynch Christian, III) (incorporated by reference to Exhibit 10.50 of the Company's Annual Report on Form 10-K (File No. 001 38003) filed with the Commission on February 20, 2020)
- †10.51 Indemnification Agreement (Mahmud Riffat) (incorporated by reference to Exhibit 10.51 of the Company's Annual Report on Form 10-K (File No. 001-38003) filed with the Commission on February 18, 2021)
- †10.52 Indemnification Agreement (David E. K. Frischkorn, Jr.) (incorporated by reference to Exhibit 10.52 of the Company's Annual Report on Form 10-K (File No. 001-38003) filed with the Commission on February 18, 2021)
- †10.53 Indemnification Agreement (E. Forrest Jones, Jr.) (incorporated by reference to Exhibit 10.53 of the Company's Annual Report on Form 10-K (File No. 001-38003) filed with the Commission on February 18, 2021)

- †10.54 Indemnification Agreement (Aurelia Skipwith Giacometto) (incorporated by reference to Exhibit 10.54 of the Company’s Annual Report on Form 10-K (File No. 001-38003) filed with the Commission on April 1, 2022)
- †10.55 Form of Restricted Stock Agreement (incorporated by reference to Exhibit 10.3 of the Company’s Current Report on Form 8-K (File No. 001-38003) filed with the Commission on April 21, 2020)
- †10.56 Amendment to Restricted Stock Award Agreements, dated December 10, 2019, between the Company and Randall W. Atkins (incorporated by reference to Exhibit 10.1 of the Company’s Current Report on Form 8-K (File No. 001-38003) filed with the Commission on December 13, 2019)
- †10.57 Amendment to Restricted Stock Award Agreements, dated December 10, 2019, between the Company and Michael D. Bauersachs (incorporated by reference to Exhibit 10.2 of the Company’s Current Report on Form 8-K (File No. 001-38003) filed with the Commission on December 13, 2019)
- †10.58 Amendment to Restricted Stock Award Agreements, dated December 10, 2019, between the Company and Christopher L. Blanchard (incorporated by reference to Exhibit 10.1 of the Company’s Current Report on Form 8-K/A (File No. 001-38003) filed with the Commission on December 16, 2019)
- †10.59 Amendment to Restricted Stock Award Agreements, dated December 10, 2019, between the Company and Jeremy R. Sussman (incorporated by reference to Exhibit 10.2 of the Company’s Current Report on Form 8-K/A (File No. 001-38003) filed with the Commission on December 16, 2019)
- 10.60 Credit and Security Agreement, dated November 22, 2019, by and among: (i) Key Equipment Finance, a division of Keybank National Association, as administrative agent, collateral agent, lender and issuer; (ii) such other lenders that are now or hereafter become a party thereto; and (iii) the Company, Ramaco Development, LLC, RAM Mining, LLC, Ramaco Coal Sales, LLC, Ramaco Resources, LLC and Ramaco Resources Land Holdings, LLC, as borrower (incorporated by reference to Exhibit 10.57 of the Company’s Annual Report on Form 10-K (File No. 001-38003) filed with the Commission on February 20, 2020)
- 10.61 Promissory Note dated April 20, 2020 by Ramaco Resources, Inc., Ramaco Development, LLC, RAM Mining, LLC, Ramaco Coal Sales, LLC, Ramaco Resources, LLC and Ramaco Resources Land Holdings, LLC, as borrowers, and Key Equipment Finance, a Division of KeyBank National Association, as lender (incorporated by reference to Exhibit 10.1 of the Company’s Current Report on Form 8-K (File No. 001-38003) filed with the Commission on April 21, 2020)
- 10.62 Promissory Note dated April 16, 2020 by Ramaco Resources, Inc. in favor of KeyBank National Association (incorporated by reference to Exhibit 10.2 of the Company’s Current Report on Form 8-K (File No. 001-38003) filed with the Commission on April 21, 2020)
- 10.63 Ramaco Resources, Inc. Change in Control and Severance Plan, effective as of April 27, 2020 (incorporated by reference to Exhibit 99.1 of the Company’s Current Report on Form 8-K (File No. 001-38003) filed with the Commission on April 28, 2020)
- 10.64 Separation and Consulting Agreement, dated December 31, 2020, by and between Ramaco Resources, Inc. and Michael D. Bauersachs (incorporated by reference to Exhibit 10.65 of the Company’s Annual Report on Form 10-K (File No. 001-38003) filed with the Commission on February 18, 2021)
- 10.65 Amended and Restated Credit and Security Agreement, dated October 29, 2021, by and among Ramaco Resources, Inc., Ramaco Development, LLC, RAM Mining, LLC, Ramaco Coal Sales, LLC, Ramaco Resources, LLC and Ramaco Resources Land Holdings, LLC, as the borrowers, the lenders party thereto and KeyBank National Association, as the administrative agent (incorporated by reference to Exhibit 10.1 of the Company’s Current Report on Form 8-K (File No. 001-38003) filed with the Commission on November 2, 2021)

- †10.66 First Amendment to the Ramaco Resources, Inc. Long-Term Incentive Plan. (incorporated by reference to Exhibit 10.1 of the Company’s Current Report on Form 8-K (File No. 001-38003) filed with the Commission on February 2, 2022)
- +10.67 Loan Agreement, dated as of September 23, 2022, between Ramaco Development, LLC and Investec Bank PLC (incorporated by reference to Exhibit 10.2 to the Company’s Current Report on Form 8-K (File No. 001-38003) filed with the SEC on September 26, 2022)
- +10.68 First Amendment to Amended and Restated Credit and Security Agreement, dated April 29, 2022, by and among Ramaco Resources, Inc., Ramaco Development, LLC, Ram Mining, LLC, Ramaco Coal Sales, LLC, Ramaco Resources, LLC, Ramaco Resources Land Holdings, LLC, and KeyBank National Association (incorporated by reference to Exhibit 10.1 of the Company’s Quarterly Report on Form 10-Q (Filed No. 001-38003) filed with the Commission on August 9, 2022)
- +10.69 Second Amendment to Amended and Restated Credit and Security Agreement, dated September 23, 2022, by and among Ramaco Resources, Inc., Ramaco Development, LLC, Ram Mining, LLC, Ramaco Coal Sales, LLC, Ramaco Resources, LLC, Ramaco Resources Land Holdings, LLC, and KeyBank National Association (incorporated by reference to Exhibit 10.2 of the Company’s Quarterly Report on Form 10-Q (File No. 001-38003) filed with the Commission on November 9, 2022)
- +10.70 Second Amended and Restated Credit and Security Agreement, dated February 15, 2023, by and among Ramaco Resources, Inc., Ramaco Development, LLC, Ram Mining, LLC, Ramaco Coal Sales, LLC, Ramaco Resources, LLC, Ramaco Resources Land Holdings, LLC, Maben Coal LLC, Carbon Resources Development, Inc., Ramaco Coal, Inc. as borrowers, the lenders party thereto and KeyBank National Association, as agent, lender, swing line lender, and the issuer (incorporated by reference to Exhibit 10.1 of the Company’s Current Report on Form 8-K (File No. 001-38003) filed with the Commission on February 17, 2023)
- †10.71 Employment Separation Agreement, dated January 26, 2024, by and between the Company and Barkley J. Sturgill, Jr. (incorporated by reference to Exhibit 10.1 of the Company’s Current Report on Form 8-K (File No. 001-38003) filed with the Commission on February 1, 2024)
- 16.1 Letter from Briggs & Veselka Co. to Securities and Exchange Commission dated January 21, 2022. (incorporated by reference to Exhibit 16.1 of the Company’s Current Report on Form 8-K (File No. 001-38003) filed with the Commission on January 24, 2022)
- 16.2 Crowe LLP letter, dated April 20, 2022 (incorporated by reference to Exhibit 16.1 of the Company’s Current Report on Form 8-K (File No. 001-38003) filed with the Commission on April 20, 2022)
- 16.3 Cherry Bekaert LLP consent letter, dated November 6, 2023 (incorporated by reference to Exhibit 16.1 of the Company’s Current Report on Form 8-K (File No. 001-38003) filed with the Commission on November 6, 2023)
- *21.1 Subsidiaries of Ramaco Resources, Inc.
- *23.1 Consent of Cherry Bekaert LLP
- *23.2 Consent of Weir International, Inc.
- 23.3 [Reserved]
- *23.4 Consent of Crowe LLP

- *31.1 Certification of Chief Executive Officer pursuant to Section 302 of Sarbanes-Oxley Act of 2002
- *31.2 Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
- **32.1 Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
- **32.2 Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
- *95.1 Mine Safety Disclosure
- 96.1 Mineral resource and reserve estimates at the Berwind Complex, dated April 4, 2023, with an effective date of December 31, 2022 (incorporated by reference to Exhibit 96.1 of Amendment No. 1 to the Company's Annual Report on Form 10-K/A (File No. 001-38003) filed with the Commission on April 7, 2023)
- 96.2 Mineral resource and reserve estimates at the Knox Creek Complex, dated April 4, 2023, with an effective date of December 31, 2022 (incorporated by reference to Exhibit 96.2 of Amendment No. 1 to the Company's Annual Report on Form 10-K/A (File No. 001-38003) filed with the Commission on April 7, 2023)
- 96.3 Mineral resource and reserve estimates at the Elk Creek Complex, dated November 22, 2022, with an effective date of December 31, 2021 (incorporated by reference to Exhibit 96.2 of Amendment No. 1 to the Company's Annual Report on Form 10-K/A (File No. 001-38003) filed with the Commission on January 10, 2023)
- *97.1 Policy Relating to Recovery of Erroneously Awarded Compensation
- *101 Interactive Data Files including the following information from the Annual Report on Form 10-K for the fiscal year ended December 31, 2023, formatted in inline extensible business reporting language ("Inline XBRL"): (i) Cover Page Interactive Data and (ii) the Financial Statements listed on the first page of Item 8. The financial information contained in the XBRL-related documents is "unaudited" and "unreviewed."
- *104 Cover Page Interactive Data File (formatted in Inline XBRL and included in the Interactive Data Files submitted under Exhibit 101).

* Exhibit filed herewith.

** Exhibit furnished herewith.

† Management contract or compensatory plan or agreement.

+ Certain schedules and similar attachments have been omitted in reliance on Item 601(a)(5) of Regulation S-K.

The Company will provide, on a supplemental basis, a copy of any omitted schedule or attachment to the SEC or its staff upon request.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

March 14, 2024 By: /s/ Randall W. Atkins
Randall W. Atkins
Chairman, Chief Executive Officer and Director
(Principal Executive Officer)

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

March 14, 2024 By: /s/ Randall W. Atkins
Randall W. Atkins
Chairman, Chief Executive Officer and Director
(Principal Executive Officer)

March 14, 2024 By: /s/ Jeremy R. Sussman
Jeremy R. Sussman
Chief Financial Officer
(Principal Financial Officer)

March 14, 2024 By: /s/ John C. Marcum
John C. Marcum
Chief Accounting Officer
(Principal Accounting Officer)

March 14, 2024 By: /s/ Bryan H. Lawrence
Bryan H. Lawrence
Director

March 14, 2024 By: /s/ Richard M. Whiting
Richard M. Whiting
Director

March 14, 2024 By: /s/ Patrick C. Graney, III
Patrick C. Graney, III
Director

March 14, 2024 By: /s/ C. Lynch Christian III
C. Lynch Christian III
Director

March 14, 2024

By: /s/ Peter Leidel

Peter Leidel
Director

March 14, 2024

By: /s/ Aurelia Skipwith Giacometto

Aurelia Skipwith Giacometto
Director

March 14, 2024

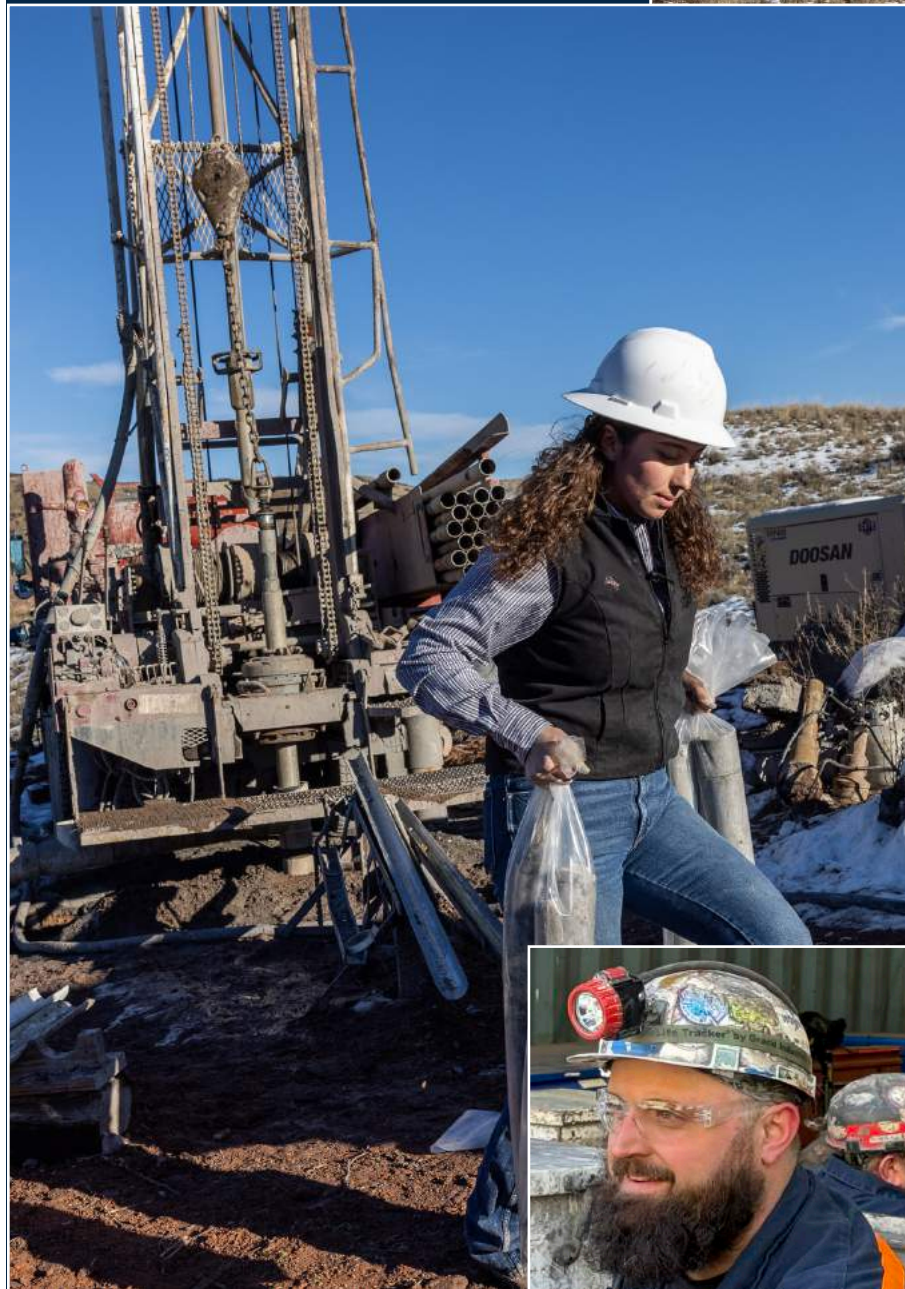
By: /s/ David E. K. Frischkorn, Jr.

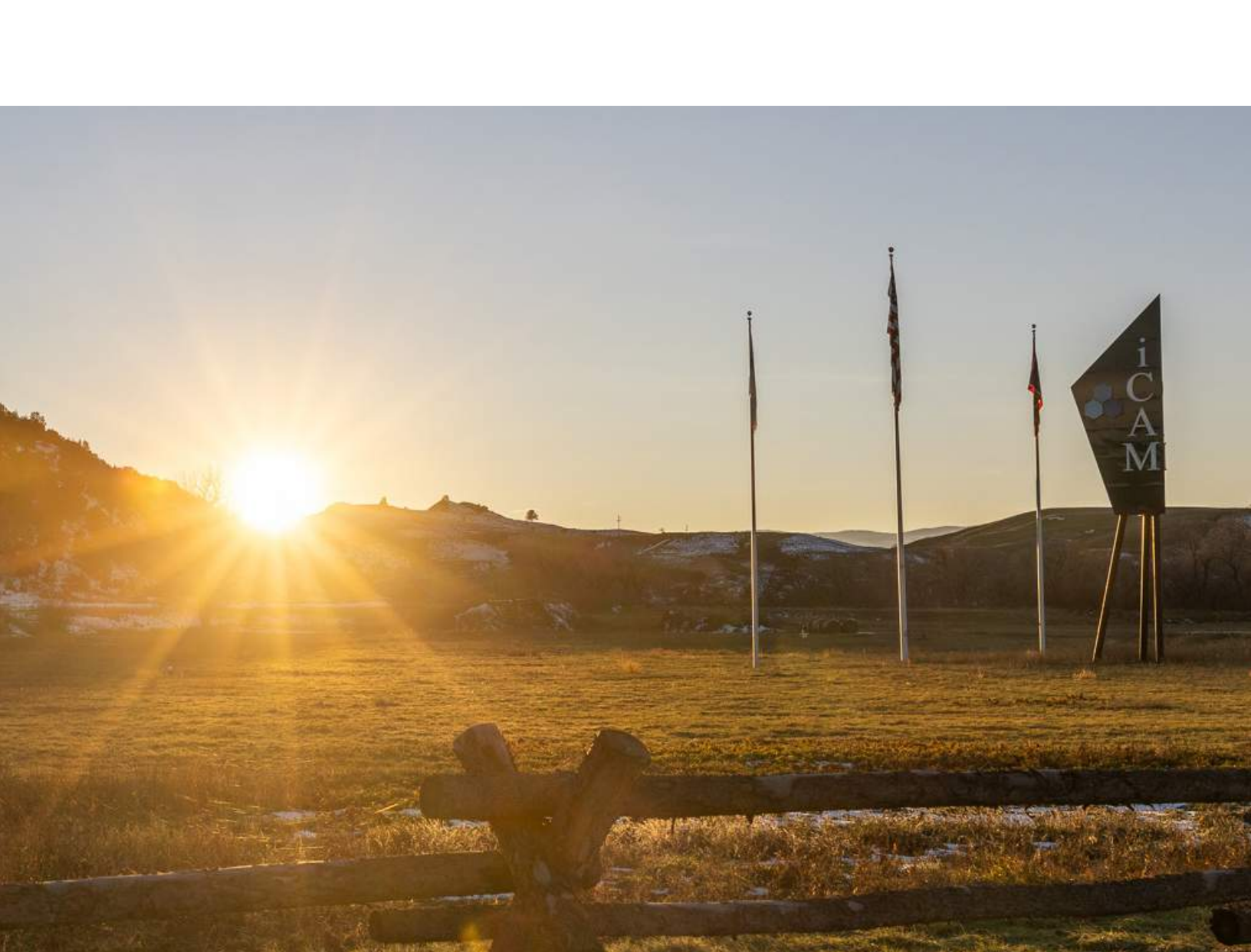
David E. K. Frischkorn, Jr.
Director

March 14, 2024


By: /s/ E. Forrest Jones, Jr.


E. Forrest Jones, Jr.
Director





RAMACO

 (859) 244-7455

 info@ramacometc.com

 www.ramacoresources.com