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

FORM 10-K

(Mark One)

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

For the fiscal year ended December 31, 2019

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)	38-4018838 (I.R.S. Employer Identification No.)
250 West Main Street, Suite 1800 Lexington, Kentucky (Address of principal executive offices)	40507 (Zip Code)

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

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

Title of each class	Trading Symbol	Name of each exchange on which registered on which registered
Common Stock, $0.01 par value	METC	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 x

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 x

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 x 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 x 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	□	Accelerated filer	□
Non-accelerated filer	□	Smaller reporting company	x
		Emerging growth company	x

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. x

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

As of June 28, 2019, 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 $45.8 million.

As of February 20, 2020, the registrant had 40,950,175 shares of common stock outstanding.

Documents Incorporated by Reference:

Certain information required to be furnished pursuant to Part III of this Form 10-K is set forth in, and is hereby incorporated by reference herein from, the definitive proxy statement for our 2020 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, 2019 (the "2020 Proxy Statement").

TABLE OF CONTENTS

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

The information in this 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.

Forward-looking statements may include statements about:

- anticipated production levels, costs, sales volumes and revenue;
- timing for completion of major capital projects;
- economic conditions in the steel industry generally;
- economic conditions in the metallurgical coal industry generally;
- expected costs to develop planned and future mining operations, including the costs to construct necessary processing and transport facilities;
- estimated quantities or quality of our metallurgical coal reserves;
- our expectations relating to dividend payments and our ability to make such payments;
- 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;
- financial condition and liquidity of our customers;
- competition in coal markets;
- the price of metallurgical coal and/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 trading, 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; 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 new risks emerge from time to time. It is not possible for our management to predict all risks, 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 report are expressly qualified in their entirety by this cautionary statement. 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 report.

PART I

Item 1. Business

Ramaco Resources, Inc. is a Delaware corporation formed in October 2016. Our principal corporate offices are located in Lexington, Kentucky. As used herein, "Ramaco Resources," "we," "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, southwestern Virginia, and southwestern Pennsylvania. We are a pure play metallurgical coal company with 242 million tons of high-quality metallurgical coal reserves. We believe our advantaged reserve geology provides us with industry leading lower cash costs and higher productivities. Our development portfolio primarily includes four properties: Elk Creek, Berwind, RAM Mine and Knox Creek.

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 a majority of our domestic target customer base, North American blast furnace steel mills and coke plants, as well as international metallurgical coal consumers.

We operate three deep mines and a surface mine at our Elk Creek mining complex. Development of this complex commenced in 2016 and included construction of a preparation plant and rail load-out facilities. The Elk Creek property consists of approximately 20,552 acres of controlled mineral rights and contains 24 seams that we have targeted for production.

Development mining at our Berwind mining complex began in late 2017. We expect the Berwind mine to achieve commercial production in late-2020 from two deep mine sections in the Pocahontas #4 seam. The Berwind property consists of approximately 31,200 acres of controlled mineral rights.

Our Knox Creek facility includes a preparation plant and 61,343 acres of controlled mineral rights that we expect to develop in the future. The Knox Creek preparation plant processes coal from our Berwind mine as well as coal we may purchase from third parties.

Our RAM Mine property is located in southwestern Pennsylvania, consists of approximately 1,567 acres of controlled mineral rights, and is scheduled for initial production in 2022, subject to permitting and market conditions.

As of December 31, 2019, our estimated aggregate annual production capacity is 2.3 million clean tons of coal. We expect production growth to 4-4.5 million clean tons by the year 2023, subject to market conditions, permitting and additional capital deployment, from our existing development portfolio.

On February 8, 2017, we completed an initial public offering ("IPO") of our common stock. Pursuant to the IPO, we registered the sale of 6,000,000 shares of our common stock, which included 3,800,000 shares sold by the Company and 2,200,000 shares sold by selling stockholders. Net proceeds to the Company totaled approximately $43.7 million. We used $10.7 million of the net proceeds to repay indebtedness and the remainder for general corporate purposes, including development of the Elk Creek mining complex and Berwind mine. Our common stock is listed on the NASDAQ Global Select Market under the symbol "METC."

Metallurgical Coal Industry

Metallurgical coal is also known as "coking coal," and is a key component of the blast furnace steelmaking process. North American metallurgical mines are primarily located in the Appalachian area of the eastern United States, and supply all of the requirements of the steel industry. Imported metallurgical coal has historically been un-economic due to transportation costs. Supply in excess of what can be consumed in North America is exported to the seaborne market to buyers in Europe, South America, Africa, India and Asia.

Metallurgical coal is transported by truck, rail and barge to coke batteries. Metallurgical coal contracts in North America frequently are calendar year contracts where both prices and volumes are fixed in the third or fourth quarter for the following calendar year.

The United States is the second largest global supplier to the seaborne metallurgical coal market behind Australia. U.S. producers, with their variable production volumes, generally serve as a swing supplier to the international metallurgical coal market. U.S. metallurgical coal exports compete with Australian metallurgical coals that are generally produced at lower cost, but are geographically disadvantaged to supply Western Europe. Conversely, Australian production has a much shorter logistical route to East Asian customers. Any supply shortfall out of Australia, or increase in global demand beyond Australia's capacity, has historically been serviced by U.S. 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 volumes have terms that vary in duration from spot to one year, rarely exceeding one year. In some cases, indices are used at the point that the coal changes hands. In other cases, an average over time may be utilized. When 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. Volatiles are products, other than water, that are released as gas or vapor when coal is converted to coke. Carbon is what remains when the volatiles are released.

Our Strategy

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

Developing and Operating Our Metallurgical Coal Properties. We have a 242 million ton reserve base of high-quality metallurgical coal with attractive quality characteristics across high-volatility and low-volatility segments. This geologically advantaged reserve base allows for flexible capital spending in challenging market conditions.

We expect production growth to 4-4.5 million clean tons by the year 2023, subject to market conditions, permitting and additional capital deployment, from our existing development portfolio. We may make acquisitions of reserves or infrastructure that continue 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.

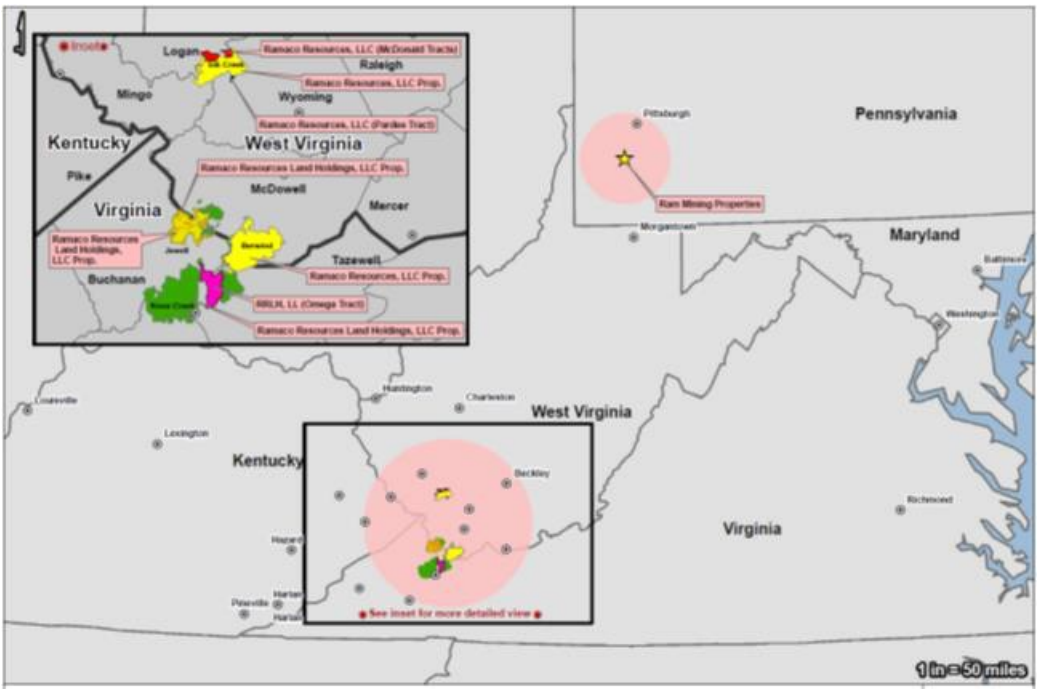
Maintaining a conservative capital structure and prudently managing the business for the long term. We are committed to maintaining a conservative capital structure with a reasonable amount of debt that will afford us the financial flexibility to execute our business strategies on an ongoing basis.

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 own 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.

Our Projects

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



Elk Creek Mining Complex

Our Elk Creek mining complex in southern West Virginia began production in late December 2016. The Elk Creek property consists of approximately 20,552 acres of controlled mineral and contains 24 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 leases and subleases from Ramaco Coal, LLC and McDonald Land Company. We estimate that the Elk Creek mining complex contains reserves capable of yielding approximately 114 million tons of clean saleable metallurgical coal.

We currently market most of the coal produced from the Elk Creek mining 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 and Asian 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 a 700 raw ton-per-hour preparation plant. The plant has a large-diameter (48") heavy-media cyclone, dual-stage spiral concentrators, froth flotation, horizontal vibratory and screen bowl centrifuges. Our rail load-out facilities at Elk Creek are capable of loading 4,000 tons per hour and a full 150-car unit train in under four hours. The load-out facility is served by the CSX railroad. 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 the capital for development of a Norfolk Southern rail facility.

The existing impoundment at Elk Creek is planned to be converted to a combined refuse facility in the future. The combined capacity is expected to provide approximately 20 years of disposal life for our operations. We completed construction of our first two plate presses to allow for dewatering material currently being pumped to our impoundment. We are in the process of adding two additional plate presses, which together with the existing presses have the capacity to process all of the material historically pumped to the impoundment. This equipment will be utilized for a portion of the time in the near term and will ultimately process all waste material for placement in the combined refuse facility.

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. Chubb INA Holdings, Inc. has filed a motion to dismiss and Federal Insurance Company has filed a motion to remove the case to federal court in West Virginia.

A large portion of our controlled reserves are permitted through existing, issued permits. We currently have three mining permits that have not been activated and are 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 lease 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 are expected to have the same geologic advantages and low costs that are being experienced in our Elk Creek mines. Our 2019 reserve study of the McDonald tracts added over 21 million proven and probable reserves in approximately 20 different coal seams to our Elk Creek reserve base. We project to mine approximately 10 million tons of these reserves in our current 10 year mine plan.

Berwind

Our Berwind coal property 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 31,200 acres of controlled

mineral 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 depth of cover has never been significantly explored. We have outcrop access to this seam at the top of an anticline. Should we choose to develop this seam in the future, we expect to experience above average seam height.

Development of our Berwind mining complex began in late 2017. Development mining is underway in the thinner Pocahontas No. 3 seam with plans to advance to a point where that seam overlaps with the thicker Pocahontas No. 4 seam in 2020, lying approximately 65 feet above the Pocahontas No. 3 seam. We plan to begin driving a slope into the Pocahontas No. 4 seam, which will become the primary production seam. We expect the Berwind mine to achieve commercial production in late-2020 from two deep mine sections. We estimate that the mine life for the Berwind mine is more than 20 years.

We have the necessary permits for the Berwind mine for our current and budgeted operations. We anticipate that a permit for our Squire Jim seam room-and-pillar underground mine may be issued during 2020. At this point, we do not anticipate activating this mining permit.

Knox Creek

The Knox Creek property consists of approximately 61,343 acres of controlled mineral, a 650 tons per hour preparation plant and coal-loading facility along with 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. We have spent limited amounts of capital to review the feasibility of a high volatile 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. Jawbone coal could flow through the same portal and slope as the idle Tiller mine.

We process coal purchased from other independent producers at the Knox Creek preparation plant and load-out facilities. We also process and load coal trucked from our Berwind mine at this facility.

During 2017 we purchased a number of leases near Knox Creek from various subsidiaries of The Brink's Company and we leased additional reserves from a third party that abut both the Brink's properties and our Knox Creek reserves. A third-party producer subleases portions of these properties from us and their operations provide royalty income, as well as coal production, that could be purchased for resale to customers or toll washed for a profit at Knox Creek. We anticipate entering into additional leases and subleases of our reserves at Knox Creek with third parties.

In the fourth quarter of 2019, we acquired multiple permits from various affiliates of Omega Highwall Mining, LLC. Consideration for the transaction included assumption of approximately $0.6 million of ARO liability, curing minor lease defaults, and paying advance royalties under two assumed lease instruments. The total out-of-pocket consideration was less than $0.1 million, most of which is recoupable against future royalty payments. 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, which contains approximately 2.65 million tons of geologically advantaged metallurgical coal. The second is a metallurgical surface mine in the Tiller and Red Ash seams that is spade ready for production. It contains approximately 800,000 tons of coal that can be mined via the surface and highwall mining methods. The surface mining is expected to have very low mining ratios. The combination of close proximity to Knox Creek and advantaged geology make these two mines likely to become active in the next 24 months. The fully permitted surface mine is one of the areas, subject to market conditions, that could positively impact 2020 production and profitability. It is likely that the surface mine will be operated utilizing third party contractors we would manage.

RAM Mine

Our RAM Mine property is located in southwestern Pennsylvania, consists of approximately 1,567 acres of controlled mineral and is scheduled for initial production in 2022. Production of high volatile coal from the Pittsburgh

seam is planned from a single continuous-miner room-and-pillar underground operation. The Pittsburgh seam, in close proximity to Pittsburgh area coke plants, has historically been a key feedstock for these coke plants. Operation of our RAM Mine coal reserve may require access to a newly constructed preparation plant and loading facility, third party processing, or direct shipment of raw coal product. Upon commencement of mining, we anticipate that the mine will produce at an annualized rate of between 300 and 500 thousand tons with an estimated 10-year mining life.

We expect that coal from the RAM Mine coal reserve will be transported to our customers by highway trucks, rail cars or by barge on river systems. In addition to close proximity to river barge facilities, our RAM Mine operations are also near Norfolk Southern rail access.

The RAM Mine coal reserve is not yet permitted, although we have applied for a permit and it is in the final phase of the permit application process. We expect this permit to be issued in 2020.

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 to U.S.-based blast furnace steel mills and U.S.-based coke plants, in addition to international markets mostly in Europe, South America and Asia. When at full production, we expect to market limited amounts annually to specialty coal customers, such as foundry coke, activated carbon products, and specialty metal producers, for premium prices. We also market limited quantities of thermal coal to domestic utilities or as a specialty coal. Thermal coal is typically less than 5% of our total production (it was 3% in 2019).

We sold 1.95 million tons of coal during 2019. Of this, 75% was sold to North American markets and 25% was sold into export markets. Principally, our export market sales were made to Europe. During 2019, sales to two customers accounted for approximately 42% of total revenue. The total balance due from these customers at December 31, 2019 was approximately 58% of total accounts receivable. No other customer accounted for more than 10% of our revenue during this period. 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.

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 work place 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.

Trade Names, Trademarks and Patents

We do not have any registered trademarks or trade names for our products, services or subsidiaries, and we do not believe that any trademark or trade name is material to our business. The names of the seams in which we have coal reserves, and attributes thereof, are widely recognized in the metallurgical coal market.

Competition

Our principal domestic competitors include Blackhawk Mining, LLC, Coronado Global Resources, Inc., Corsa Coal Corp, Arch Coal, Inc., Contura Energy, Inc. 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, Colombia and South Africa. 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 and Other Regulatory Matters

Our operations are subject to federal, state, and local laws and regulations, such as those relating to matters such as permitting and licensing, employee health and safety, reclamation and restoration of mining properties, water discharges, air emissions, plant and wildlife protection, the storage, treatment and disposal of wastes, remediation of contaminants, 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 and may delay commencement, continuation or expansion of exploration or production at our facilities. They may also depress demand for our products by imposing more stringent requirements and limits on our customers' operations. Moreover, these laws are constantly evolving and are becoming increasingly complex and stringent over time. These laws and regulations, particularly 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. SMCRA establishes operational, reclamation and closure standards for our mining operations and requires that comprehensive environmental protection and reclamation standards be met during the course of and following completion of mining activities. SMCRA also stipulates compliance with many other major environmental statutes, including the CAA, the CWA, the ESA, RCRA and CERCLA. Permits for all mining operations must be obtained from the United States Office of Surface Mining Reclamation and Enforcement ("OSMRE") or, where state regulatory agencies have adopted federally approved state programs under SMCRA, the appropriate state regulatory authority. Our operations are located in states which have achieved primary jurisdiction for enforcement of SMCRA through approved state programs.

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, OSMRE will also update its mining regulations under SMCRA. For example, 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 ("CRA"). 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. SMCRA also 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 $0.28 per ton for surface-mined coal and $0.12 per ton for underground-mined coal. These fees are currently scheduled to be in effect until September 30, 2021. 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, and the interpretations of these rules, are complex, change frequently, and may be subject to discretionary interpretations by regulators. The requirements imposed by these permits and associated regulations can be costly and time-consuming and may delay commencement or continuation of exploration, production or expansion at our operations. The governing laws, rules, and regulations 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.

Applications for permits and permit renewals at 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 involve 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 EPA also 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. 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 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, 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 they would no longer accept self-bonding to secure reclamation obligations under the state mining laws. 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 Mine Act and 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. 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. For example, MSHA published a request for information in August 2019 related to its consideration of a lower exposure limit for silica in respirable dust. 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 Black Lung. We are insured for workers' compensation benefits for work related injuries that occur within our United States operations. We retain first-dollar 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 black lung disease under the Federal Coal Mine Health and Safety Act of 1969 and the Mine Act, as amended. 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 affects 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 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 June 2011, the EPA finalized the Cross-State Air Pollution Rule ("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 May 2017, EPA further limited summertime (May-September) nitrogen oxide emissions from power plants in 22 states in the eastern United States in 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 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 federal Clean Air Act. 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 our thermal coal. However, the practical impact of CSAPR may be limited because utilities in the U.S. have continued to take steps to comply with CAIR, which requires similar power plant emissions reductions, and because utilities are preparing to comply with the Mercury and Air Toxics Standards ("MATS") regulations, which require overlapping power plant emissions reductions.

- *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 CSAPR.

- *NAAQS for Criterion Pollutants.* The CAA requires the EPA to set standards, referred to as NAAQS, for six common air pollutants: carbon monoxide, nitrogen dioxide, lead, ozone, particulate matter 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 nitrogen oxide, sulfur dioxide, particulate matter and ozone. The CAA further requires EPA to periodically review and revise the NAAQS, resulting in the adoption of increasingly more stringent standards over time. States with areas non-attainment areas must adopt a state implementation plan ("SIP") 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. The final rules and new 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 metal, fine particulates, and acid gases from coal- and oil-fired power plants through the Mercury and Air Toxics Standards ("MATS") rule. In February 2019, the EPA proposed a rule that would reverse its determination that it is appropriate and necessary to regulate these pollutants. However, as proposed, this rule would not alter or eliminate the emissions standards established by the 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. 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 CO_2, 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 and state 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 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, President Obama announced in November 2014 that the United States would seek to cut net GHG emissions 26-28 percent below 2005 levels by 2025 in return for China's commitment to seek to peak emissions around 2030, with concurrent increases in renewable energy. In April 2016, the United States further agreed to voluntarily limit or reduce future emissions as part of the Paris Agreement reached at the United Nations Conference on Climate Change. However, in November 2019, the United States submitted formal notification to the United Nations that it intends to withdraw from the agreement in November 2020. Were the United States to enter into a future international agreement related to GHGs, or to rescind its withdrawal from the Paris Agreement, utilities may be inhibited from building new coal-fired plants to replace older plants or from investing in the upgrading of existing coal-fired plants, adversely impacting the market for our coal.

At the federal level, no comprehensive climate change legislation has been implemented to date. The EPA has, however, 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 has begun adopting and implementing regulations to restrict emissions of GHGs under existing provisions of the CAA. For example, in August 2015, EPA finalized the CPP to cut carbon emissions from existing power plants. The CPP creates individualized emission guidelines for states to follow, and requires each state to develop an implementation plan to meet the individual state's specific targets for reducing GHG emissions. In July 2019, the EPA adopted a rule that replaced the CPP with a new rule titled the Affordable Clean Energy ("ACE") Rule. Although the ACE rule moves away from the individualized emission guidelines of the CPP, it still requires states to set appropriate GHG emission standards for power plants within their jurisdiction based upon the application of "candidate" heat rate improvement measures. The implementation of the ACE rule is currently being challenge in the D.C. Circuit. These and future GHG emission standards may encourage a shift away from coal-fired power generation, adversely impacting the market for our product.

At the state level, several states, including Pennsylvania, have already adopted measures requiring GHG emissions to be reduced within state 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.

The uncertainty over the outcome of litigation challenging the ACE rule and 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 our thermal coal, thereby reducing our revenue and adversely affecting our business and results of operations. We or prospective customers may also have to invest in CO2 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 CO2 and can give rise to safety concerns. For example, EPA has established the Coalbed Methane Outreach Program ("CMOP") in an effort to mitigate methane emissions from underground coal mines through voluntary initiatives and outreach. 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. The CWA provisions and associated state and federal regulations are complex and subject to amendments, legal challenges and changes in implementation. 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. Recent court decisions, regulatory actions and proposed legislation have created uncertainty over CWA jurisdiction and permitting requirements.

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. 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.

For instance, waters that states have designated as impaired (i.e., as not meeting present water quality standards) are subject to Total Maximum Daily Load 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. In October 2019, EPA and the Army Corps of Engineers issued a final rule that repealed the 2015 WOTUS definition and reinstated the agencies' narrower pre-2015 scope of federal CWA jurisdiction. Judicial challenges to EPA's October 2019 final rule are currently before multiple federal district courts. If the October 2019 final rule is vacated and the expanded scope of jurisdiction in the 2015 rule is ultimately implemented, 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. 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, RCRA also addresses the environmental effects of certain past hazardous waste treatment, storage and disposal practices. In addition, 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.

RCRA may affect coal mining operations by establishing requirements for the proper management, handling, transportation and disposal of solid and hazardous wastes. For example, EPA regulates coal ash as a solid waste under Subtitle D of 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. However, in December 2019, EPA proposed amendments to its CCR rule that would require closure to be initiated at all unlined and clay-lined surface impoundments by August 31, 2020. Additionally, in December 2016, Congress passed the Water Infrastructure Improvements for the Nation Act, which provides for the establishment of state and EPA permit programs for the control of coal combustion residuals and authorizes states to incorporate EPA's final rule for coal combustion residuals or develop other criteria that are at least as protective as the final rule. These requirements, as well as any future changes in the management of coal combustion residuals, 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 coal combustion residuals, including coal ash, could lead to material liability for our customers under 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 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 spilling of some products used by coal companies in operations, such as chemicals, could trigger the liability provisions of CERCLA or similar state laws. Thus, 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 area 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 habitat 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.

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. 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 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 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.

In the past, the Council on Environmental Quality ("CEQ") has issued guidance encouraging agencies to provide more detailed discussion of the direct, indirect, and cumulative impacts of a proposed action's reasonably foreseeable GHG emissions and effects. Although this guidance has since been withdrawn, the adoption of a similar guidance in the future 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, and the Emergency Planning and Community Right-to-Know Act. 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.

Employees

We had 395 employees as of December 31, 2019, including our named executive officers. 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.

Jumpstart Our Business Startups Act ("JOBS Act")

We are an "emerging growth company" as defined in the Jumpstart Our Business Startups Act (the "JOBS Act"). For as long as we are an emerging growth company, unlike public companies that are not emerging growth companies under the JOBS Act, we will not be required to:

- provide an auditor's attestation report on management's assessment of the effectiveness of our system of internal control over financial reporting pursuant to Section 404(b) of the Sarbanes-Oxley Act of 2002;
- comply with any new requirements adopted by the Public Company Accounting Oversight Board (the "PCAOB") requiring mandatory audit firm rotation or a supplement to the auditor's report in which the auditor would be required to provide additional information about the audit and the financial statements of the issuer;
- provide certain disclosure regarding executive compensation required of larger public companies or hold stockholder advisory votes on the executive compensation required by the Dodd-Frank Wall Street Reform and Consumer Protection Act (the "Dodd-Frank Act"); or
- obtain stockholder approval of any golden parachute payments not previously approved.

We will cease to be an emerging growth company upon the earliest of:

- the last day of the fiscal year in which we have $1.07 billion or more in annual revenues;
- the date on which we become a "large accelerated filer" (the fiscal year-end on which the total market value of our common equity securities held by non-affiliates is $700 million or more as of our most recently completed second fiscal quarter);
- the date on which we issue more than $1.0 billion of non-convertible debt over a three-year period; or
- the last day of the fiscal year following the fifth anniversary of our initial public offering.

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 http://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.

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 2023. 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 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.

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. Metallurgical coal markets weakened significantly during 2019 as certain China ports placed restrictions on imported coal. Between these restrictions, concerns about the stability of the global economy and the ongoing trade dispute between China and the U.S., metallurgical coal prices dropped meaningfully during 2019. Our export customers 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.

On December 31, 2019, a human infection originating in China was traced to a novel strain of coronavirus. The virus has subsequently spread to more than two dozen countries, including the United States. On January 30, 2020, the World Health Organization declared that the recent coronavirus outbreak as a global health emergency. The United

States and other countries have placed travel restrictions to China and several businesses in China have temporarily closed. The current and anticipated economic impact of these actions have caused declines in many commodity prices, including a modest decline in metallurgical coal prices. If the impacts of the coronavirus outbreak, including the accompanying travel restrictions and business closures, continue for an extended period of time or worsen, it could reduce the demand for metallurgical coal, which would have a material adverse effect on our business, financial condition, cash flows and results of operations.

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.

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 mining complex. Our Berwind mine will remain under development until we reach our targeted coal reserves in the Pocahontas No. 4 seam. That coal is currently, and is planned to continue to be, washed at our active Knox Creek plant. At our RAM Mine, we may require access to either newly constructed preparation and loading facilities or arrangements with third parties to process and load our coal. Alternatively, we might mine the coal in a manner that allows us to ship the coal direct without washing. We will analyze whether to expend capital to construct preparation facilities or enter into third-party processing arrangements. 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, rock slides and seismic activity;
- unusual or unexpected geological and metallurgic 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 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. If competitive technologies emerge that use other materials in place of 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.

Our multiple coal quality levels and the need to send test shipments to prospective customers may negatively impact our ability to further develop our customer base.

Customers typically request test shipments of coal in advance of entering into coal sales agreements which requires that we provide coal quality to meet customer specifications. If we experience delays in the delivery of test shipments, it could negatively impact our ability to develop our customer base.

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 and intend to use contractors if and when we construct facilities at the RAM Mine. 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 has been an extremely volatile commodity over the past 10 years. 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, 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, 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.

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. 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;
- 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. 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 exclusively located in a single geographic region, making us vulnerable to risks associated with operating in a single geographic area.

Currently, all of our operations are conducted in a single geographic region in the eastern United States in the states of Pennsylvania, Virginia and West Virginia. 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 or natural disasters. 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, scientists have warned that increasing concentrations of greenhouse gases ("GHGs") in the Earth's atmosphere may produce climate changes that have significant physical effects, such as increased frequency and severity of storms, droughts and floods and other climatic events. If these warnings are correct, and 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.

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 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, lock-outs, 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 Mine Safety and Health Administration ("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.

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.

Decreases in demand for electricity and changes in coal consumption patterns of U.S. electric power generators could adversely affect our business.

While demand for metallurgical coal is not closely linked to domestic demand for electricity, we anticipate that the incidental production of thermal coal may generate up to 10% of our tons sold annually. Any changes in coal consumption by electric power generators in the United States would likely impact our business over the long term.

The low price of natural gas in recent years has resulted, in many instances, in domestic electric generators increasing natural gas consumption while decreasing coal consumption. Federal and state mandates for increased use of electricity derived from renewable energy sources, such as the Clean Power Plan ("CPP"), also affect demand for our thermal coal. A decrease in coal consumption by the electric power generation industry could adversely affect the price

of coal, which could have a material adverse effect on its business, financial condition, results of operations, cash flows and ability to pay dividends to our stockholders.

Changes in the coal industry that affect our prospective customers, such as those caused by decreased electricity demand and increased competition, could also adversely affect our business. Indirect competition from natural gas fired plants that are relatively less expensive to construct and less difficult to permit has the most potential to displace a significant amount of coal fired electric power generation in the near term, particularly older, less efficient coal fired powered generators. In addition, uncertainty caused by federal and state regulations could cause thermal coal customers to be uncertain of their coal requirements in future years, which could adversely affect our ability to sell coal to such prospective customers under multi-year sales contracts. This could have a material adverse effect on our business, financial condition, cash flows.

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, financial condition, results of operations, 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.

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 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, should we choose to do so in the future, 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.

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.

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 Surface Mining Control and Reclamation Act of 1977 ("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.

Substantially all of our mining properties are leased from our affiliates and conflicts of interest may arise in the future as a result.

Most of our properties, except those controlled by us at or near Knox Creek and a couple of leases at Elk Creek, including our mineral lease with the McDonald Land Company, are leased or subleased to our subsidiaries from entities controlled by Ramaco Coal, LLC, which shares some common ownership with us. Additionally, RAMACO Central Appalachia, LLC and RAMACO Resources, LLC entered into mutual cooperation agreements concerning the Elk Creek property and Berwind coal reserve, requiring each party to notify the other in the event that such party acquires an interest in real property adjacent to or contiguous with the Elk Creek property or Berwind coal reserve, respectively. RAMACO Northern Appalachia, LLC and RAM Mining, LLC entered into a mutual cooperation agreement concerning the RAM Mine property, requiring each party to notify the other in the event that such party acquires an interest in real property in Pennsylvania that contains coal or mining rights. Given the common ownership between Ramaco Coal, LLC and us and the complex contractual obligations under these arrangements, conflicts could arise (including between us and Ramaco Coal, LLC and our Executive Chairman and our Chief Executive Officer and President who are also owners of Ramaco Coal, LLC). While we have an audit committee and formal related party transaction policy, a conflict may arise which could adversely affect the interests of our stockholders, including, without limitation, conflicts involving compliance with payment and performance obligations under existing leases, and negotiation of the terms of and performance under additional leases we may enter into with Ramaco Coal, LLC or its subsidiaries or affiliates in the future. For example, if a title defect were identified with respect to a property under lease or sublease from our affiliates, we may need to seek return of royalty payments or set off other payments due to such entities. Such a conflict could distract our management and could result in disputes with our affiliates.

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 a labor agreement signatory. 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. 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.

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.

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 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 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.

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.

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

On December 22, 2017, tax legislation commonly known as the Tax Cuts and Jobs Act ("TCJA") was enacted. Among other things, the TCJA reduced the U.S. corporate income tax rate from 35% to 21% and repealed the alternative minimum tax ("AMT") beginning in 2018. Given these changes, we expect a significant reduction in the income taxes we will pay in the future compared to what we would have paid under prior law. Congress could, in the future, revise or repeal the changes made by the TCJA 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, to help reduce budget deficits. We are unable to predict whether any of these 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.

Changes in the method of determining the London Interbank Offered Rate, or the replacement of the London Interbank Offered Rate with an alternative reference rate, may adversely affect interest expense related to outstanding debt.

Amounts drawn under our current debt agreements may bear interest at rates based on the London Interbank Offered Rate ("LIBOR"). On July 27, 2017, the Financial Conduct Authority in the United Kingdom announced that it would phase out LIBOR as a benchmark by the end of 2021. It is unclear whether new methods of calculating LIBOR will be established such that it continues to exist after 2021. In addition, the overall financial markets may be disrupted as a result of the phase-out or replacement of LIBOR. Uncertainty as to the nature of such potential phase-out and alternative reference rates or disruption in the financial market could adversely affect our financial condition, results of operations and cash flows.

Risks Related to Environmental, Health, Safety and Other Regulations

Laws and regulations restricting greenhouse gas emissions as well as uncertainty concerning such regulations could adversely impact the market for coal, increase our operating costs, and reduce the value of our coal assets.

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. 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 CO_2, 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 and state 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 generation, which could in turn adversely impact our business. They could also result in direct regulation of the GHGs produced by our operations. 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 uncertainty over the outcome of litigation challenging the CPP or its replacement, and 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 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 CO2 capture and storage technologies in order to burn coal and comply with future GHG emission standards.

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.

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 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:

- employee 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;
- 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 criteria for discharges of selenium regulated under the CWA, which may be more stringent than current

criteria. 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 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 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. 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.

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

Under 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 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, Atkins and Bauersachs are 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 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 prospective customers are subject to extensive existing and future government 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. Additional retirements of coal-fired power plants by prospective customers could further decrease demand for thermal coal and reduce our revenues and adversely affect our business and results of operations. See "Business—Environmental and Other Regulatory Matters—Clean Air Act."

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. Several states, including Pennsylvania, 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 tax credits, 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, such as the ACE rule and various state programs, 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.

Environmental activism and initiatives aimed at limiting climate change and a reduction of air pollutants could interfere with our business activities, operations and ability to access capital sources.

Participants in the coal mining industry are frequently targeted by environmental 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. If that were to happen, our ability to operate our business or raise capital could be materially and adversely impacted.

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 and also pressuring lenders to limit funding to companies engaged in the extraction of fossil fuel reserves. In California, for example, legislation was signed into law 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. Several large investment banks also announced that they had 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. 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. For example, in January 2020, an asset manager with over $7 trillion in assets announced that it will begin exiting 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 Federal Mine Safety and Health Act of 1977 (the "Mine Act") and Mine Improvement and New Emergency Response Act (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. 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, as amended. 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 Surface Mining Control and Reclamation Act. If the assumptions underlying our accruals are inaccurate, we could be required to expend greater amounts than anticipated.

SMCRA establishes operational, reclamation and closure standards for our mining operations. 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 SMCRA, the appropriate state regulatory authority. Our operations are located in states which have achieved primary jurisdiction for enforcement of SMCRA through approved state programs. See "Business—Environmental and Other Regulatory Matters."

In December 2016, OSMRE published the final version of the Stream Protection Rule. The rule became effective in January 2017 but was subsequently "disapproved" pursuant to the Congressional Review Act ("CRA"). The rule would have impacted both surface and underground mining operations by imposing stricter guidelines on conducting coal mining operations within buffer zones and increasing testing and monitoring requirements related to the quality or quantity of surface water and groundwater or the biological condition of streams. The Stream Protection Rule would also have required the collection of increased premining data about the site of the proposed mining operation and adjacent areas to establish a baseline for evaluation of the impacts of mining and the effectiveness of reclamation associated with returning streams to premining conditions.

In addition, SMCRA imposes a reclamation fee on all current mining operations, the proceeds of which are deposited in the Abandoned Mine Reclamation Fund ("AML Fund"), which is used to restore unreclaimed and abandoned mine lands mined before 1977. The current per ton fee is $0.28 per ton for surface mined coal and $0.12 per ton for underground mined coal. These fees are currently scheduled to be in effect until September 30, 2021.

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 may be limited by the amount of cash we generate from operations following the payment of fees and expenses, by restrictions in any future debt instruments and by additional factors unrelated to our profitability.

We may pay special and regular quarterly dividends in the future. The declaration and payment of dividends, if any, is subject to the discretion of our board of directors and the requirements of applicable law. The timing and amount of any dividends declared will depend on, among other things: (a) our earnings, earnings outlook, financial condition, cash flow, cash requirements and 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 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:

- 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, any future 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 ("DGCL") allows our board of directors to declare and pay dividends on the shares of our 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.

For as long as we are an emerging growth company, we will not be required to comply with certain reporting requirements that apply to other public companies, including those relating to auditing standards and disclosure about our executive compensation.

The JOBS Act contains provisions that, among other things, relax certain reporting requirements for "emerging growth companies," including certain requirements relating to auditing standards and compensation disclosure. We are classified as an emerging growth company. For as long as we are an emerging growth company, which may be as late as our annual report for the fiscal year ending December 31, 2022, unlike other public companies, we will not be required to, among other things, (1) provide an auditor's attestation report on management's assessment of the effectiveness of our system of internal control over financial reporting pursuant to Section 404(b) of the Sarbanes-Oxley Act of 2002, (2) comply with any new requirements adopted by the PCAOB requiring mandatory audit firm rotation or a supplement to the auditor's report in which the auditor would be required to provide additional information about the audit and the financial statements of the issuer, (3) comply with any new audit rules adopted by the PCAOB after April 5, 2012 unless

the SEC determines otherwise or (4) provide certain disclosure regarding executive compensation required of larger public companies.

The requirements of being a public company, including compliance with the reporting requirements of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and the requirements of the Sarbanes-Oxley Act, may strain our resources, increase our costs and consume management attention, and we may be unable to comply with these requirements in a timely or cost-effective manner.

As a public company, we need to comply with new laws, regulations and requirements, certain corporate governance provisions of the Sarbanes-Oxley Act of 2002, related regulations of the SEC and the requirements of the NASDAQ, with which we were not required to comply as a private company. Complying with these statutes, regulations and requirements occupies a significant amount of time for our board of directors and management and significantly increases our costs and expenses. We need to:

- institute a more comprehensive compliance function;
- comply with rules promulgated by the NASDAQ;
- continue to prepare and distribute periodic public reports in compliance with our obligations under the federal securities laws;
- establish new internal policies, such as those relating to insider trading; and
- involve and retain to a greater degree outside counsel and accountants in the above activities.

Furthermore, while we generally must comply with Section 404 of the Sarbanes-Oxley Act of 2002, we are not required to have our independent registered public accounting firm attest to the effectiveness of our internal controls until our first annual report subsequent to our ceasing to be an "emerging growth company" within the meaning of Section 2(a)(19) of the Securities Act. Accordingly, we may not be required to have our independent registered public accounting firm attest to the effectiveness of our internal controls until as late as our annual report for the fiscal year ending December 31, 2022. Once it is required to do so, our independent registered public accounting firm may issue a report that is adverse in the event it is not satisfied with the level at which our controls are documented, designed, operated or reviewed. Compliance with these requirements may strain our resources, increase our costs and distract management, and we may be unable to comply with these requirements in a timely or cost-effective manner.

In addition, being a public company subject to these rules and regulations may make it more difficult and more expensive for us to obtain director and officer liability insurance and we may be required to accept reduced policy limits and coverage or incur substantially higher costs to obtain the same or similar coverage. As a result, it may be more difficult for us to attract and retain qualified individuals to serve on our board of directors or as executive officers.

If we fail to maintain an effective system of internal controls, we may not be able to accurately report our financial results or prevent fraud. As a result, current and potential stockholders could lose confidence in our financial reporting, which would harm our business and the trading price of our common stock.

Effective internal controls are necessary for us to provide reliable financial reports, prevent fraud and operate successfully as a public company. If we cannot provide reliable financial reports or prevent fraud, our reputation and operating results would be harmed. We cannot be certain that our efforts to maintain our internal controls will be successful or that we will be able to comply with our obligations under Section 404 of the Sarbanes Oxley Act of 2002. Any failure to maintain effective internal controls, or difficulties encountered in implementing or improving our internal controls, could harm our operating results or cause us to fail to meet our reporting obligations. Ineffective internal controls could also cause investors to lose confidence in our reported financial information, which would likely have a negative effect on the trading price of our common stock.

Our significant stockholders have the ability to direct the voting of a majority of the voting power of our common stock, and their interests may conflict with those of our other stockholders.

Our significant stockholders, Yorktown and ECP, collectively own approximately 64% of our common stock, and management and our directors own approximately 15%. As a result, our significant stockholders are able to control

matters requiring stockholder approval, including the election of directors, changes to our organizational documents and significant corporate transactions. This concentration of ownership makes it unlikely that any other holder or group of holders of our common stock will be able to affect the way we are managed or the direction of our business. The interests of our significant stockholders with respect to matters potentially or actually involving or affecting us, such as future acquisitions, financings and other corporate opportunities and attempts to acquire us, may conflict with the interests of our other stockholders. Given this concentrated ownership, our significant stockholders would have to approve any potential acquisition of us. In addition, certain of our directors are currently employees of our significant stockholders. These directors' duties as employees of our significant stockholders may conflict with their duties as our directors, and the resolution of these conflicts may not always be in our or your best interest.

Furthermore, we entered into a stockholders' agreement with the significant stockholders in connection with our initial public offering. Among other things, the stockholders' agreement provides certain funds affiliated with and/or managed by Yorktown and ECP with the right to designate a certain number of nominees to our board of directors until the later of (i) the time at which such stockholder no longer has the right to designate an individual for nomination to the board of directors under the stockholders' agreement, and (ii) the time at which the significant stockholders cease to hold in aggregate at least 50% of the outstanding shares of our common stock.

The existence of a significant stockholder and the stockholders' agreement may have the effect of deterring hostile takeovers, delaying or preventing changes in control or changes in management or limiting the ability of our other stockholders to approve transactions that they may deem to be in our best interests. Our significant stockholders' concentration of stock ownership may also adversely affect the trading price of our common stock to the extent investors perceive a disadvantage in owning stock of a company with significant stockholders.

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, who are responsible for managing the direction of our operations and acquisition activities, hold positions of responsibility with other entities (including Yorktown- and ECP-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. For additional discussion of our management's business affiliations and the potential conflicts of interest of which our stockholders should be aware, see "Certain Relationships and Related Persons Transactions."

Our significant stockholders and their affiliates are not limited in their ability to compete with us, and the corporate opportunity provisions in our amended and restated certificate of incorporation could enable our significant stockholders to benefit from corporate opportunities that might otherwise be available to us.

Our governing documents provide that our significant stockholders and their affiliates (including portfolio investments of our significant stockholders and their affiliates) are not restricted from owning assets or engaging in businesses that compete directly or indirectly with us. In particular, subject to the limitations of applicable law, our amended and restated certificate of incorporation, among other things:

- permits our significant stockholders and their affiliates and our non-employee directors to conduct business that competes with us and to make investments in any kind of property in which we may make investments; and
- provides that if our significant stockholders or their affiliates or any director or officer of one of our affiliates, or our non-employee directors, our significant stockholders or their affiliates who is also one of

our directors, or our non-employee directors, becomes aware of a potential business opportunity, transaction or other matter, they will have no duty to communicate or offer that opportunity to us.

Our significant stockholders or their affiliates, or our non-employee directors, may become aware, from time to time, of certain business opportunities (such as acquisition opportunities) and may direct such opportunities to other businesses in which they have invested, in which case we may not become aware of or otherwise have the ability to pursue such opportunity. Further, such businesses may choose to compete with us for these opportunities, possibly causing these opportunities to not be available to us or causing them to be more expensive for us to pursue. In addition, our significant stockholders and their affiliates, or our non-employee directors, may dispose of coal properties or other assets in the future, without any obligation to offer us the opportunity to purchase any of those assets. As a result, our renouncing our interest and expectancy in any business opportunity that may be from time to time presented to our significant stockholders and their affiliates, or our non-employee directors, could adversely impact our business or prospects if attractive business opportunities are procured by such parties for their own benefit rather than for ours.

Each of our significant stockholders has resources greater than we do, which may make it more difficult for us to compete with our significant stockholders with respect to commercial activities as well as for potential acquisitions. We cannot assure you that any conflicts that may arise between us and our minority stockholders, on the one hand, and our significant stockholders, on the other hand, will be resolved in our favor. As a result, competition from our significant stockholders and their affiliates could adversely impact our results of operations.

Our amended and restated certificate of incorporation and amended and restated 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 common stock.

Our amended and restated certificate of incorporation 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 amended and restated certificate of incorporation and amended and restated 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 amended and restated certificate of incorporation 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 amended and restated certificate of incorporation 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 Delaware General Corporation Law (the "DGCL"), our amended and restated certificate of incorporation 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 amended and restated certificate of incorporation 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 amended and restated certificate of incorporation 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 are a "controlled company" within the meaning of the NASDAQ rules and, as a result, qualify for and rely on exemptions from certain corporate governance requirements.

Yorktown beneficially owns a majority of our outstanding voting interests. As a result, we are a "controlled company" within the meaning of the NASDAQ corporate governance standards. Under the NASDAQ rules, a company of which more than 50% of the voting power is held by another person or group of persons acting together is a "controlled company" and may elect not to comply with certain NASDAQ corporate governance requirements, including the requirements that:

- a majority of the board of directors consist of independent directors;
- we have a nominating and governance committee that is composed entirely of independent directors with a written charter addressing the committee's purpose and responsibilities; and
- we have a compensation committee that is composed entirely of independent directors with a written charter addressing the committee's purpose and responsibilities.

These requirements will not apply to us as long as we are a controlled company. We intend to continue to utilize some or all of these exemptions. Accordingly, you may not have the same protections afforded to stockholders of companies that are subject to all of the corporate governance requirements of the NASDAQ.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

Our Properties

At December 31, 2019, we owned or controlled, primarily through long-term leases, approximately 113,095 acres of coal minerals in Virginia and West Virginia and 1,567 acres of coal minerals in Pennsylvania. 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.

Our executive headquarters occupies leased office space in Lexington, Kentucky and we lease office space in Charleston, West Virginia as an operations center. See Item 1. "Business—Our Projects" for specific information about our mining operations.

Our Coal Reserves

Reserves are defined by the SEC Industry Guide 7 as that part of a mineral deposit which could be economically and legally extracted or produced at the time of the reserve determination. Reserves are further classified as proven or probable according to the degree of certainty of existence. 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). The terms and criteria utilized to estimate reserves for this study are based on United States Geological Survey Circular 891 and in general accordance with SEC Industry Guide 7, and are summarized as follows:

- Proven (Measured) Reserves: Reserves for which (a) quantity is computed from dimensions revealed in outcrops, trenches, workings or drill holes; and grade and/or quality are computed from the results of detailed sampling and (b) the sites for inspection, sampling and measurement are spaced so closely and the geologic character is so well defined that size, shape, depth and mineral content of reserves are well-established.
- Probable (Indicated) Reserves: Reserves for which quantity and grade and/or quality are computed from information similar to that used for proven (measured) reserves, but the sites for inspection, sampling, and measurement are farther apart or are otherwise less adequately spaced. The degree of assurance, although lower than that for proven (measured) reserves, is high enough to assume continuity between points of observation.

Our coal reserve estimates at December 31, 2019 were prepared by our engineers and geologists. Our coal 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. Periodically, we retain outside experts to independently verify our coal reserve estimates. The most recent studies of our coal reserves at Elk Creek, Knox Creek, Berwind and RAM Mine 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 upon 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.

In our most recent reserve study, we began the process with Weir of preparing our reserve reporting for compliance with the SEC Regulation S-K 1300 requirements, which will not apply until our first filing after January 1, 2021. Weir initiated this process with us by completing a historical project review as well as beginning 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 individual 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 area reserve area is minable. For example, a slope calculation was conducted in areas planned to be contour mined. If these areas were too steep, the reserves would be reclassified to unminable and unreportable.

Our reserves available to us by lease or right to lease from Ramaco Coal, LLC are summarized by project in the table below. All reserves listed for our Elk Creek mining complex, Berwind, Knox Creek and RAM Mine properties are controlled by Ramaco Coal, LLC. We lease and sublease approximately 242 million tons of those reserves at our Elk

Creek, Berwind, Knox Creek and RAM Mine properties. In addition, we have the right to lease approximately 63 million additional tons of reserves controlled by Ramaco Coal, LLC, pursuant to mutual cooperation agreements.

	Location	Mining Method	Reserves (in millions) [1] Proven	Probable	Total	Status of Operation	Projected Mine Life (years)	Typical Met Coal Quality [2]	Planned Transportation
Elk Creek	Logan, Wyoming and Mingo Counties, WV	Underground, Highwall, Surface	55	37	93	Producing	20+	High Volatile A, A/B, B	CSX RR, Norfolk Southern RR, Truck
Berwind	McDowell County, WV, Buchanan and Tazewell Counties, VA	Underground	30	19	50	Producing	20+	Low Volatile	Truck, Norfolk Southern RR
RAM Mine	Washington County, PA	Underground	2	3	5	2022	10	High Volatile C	Norfolk Southern RR, Truck, Barge
Knox Creek	Buchanan, Tazewell and Russell Counties, VA	Highwall, Underground	81	14	94	Producing	20+ [3]	High Volatile A	Truck, Norfolk Southern
Total			168	74	242				

(1) Reserves, presented as clean recoverable tons, are based upon 50% underground mining recovery, theoretical preparation plant yield at appropriate specific gravities and 95% preparation plant efficiency. Assessments of economic mineability were determined using metallurgical coal sales prices based on the three-year historical benchmark price for semi-soft coking of approximately $88 per short ton for coal produced at Elk Creek, RAM and Knox Creek and the three-year average premium hard coking coal historical benchmark price of approximately $104 per short ton for coal produced at Berwind.

(2) 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% volatiles being classified as low volatile, 23% to 31% as mid volatile and 32% or greater as high volatile. The amount of volatile matter in coal impacts coke yield—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. Totals may not sum due to rounding.

(3) The potential Jawbone underground mine would have a 10-15 year life.

(4) We leased two McDonald Land tracts on January 3, 2020. These tracts were included in the mine plans at the time of our initial public offering. We project to mine approximately 10 million McDonald Land tons in our current 10 year mine plan. We requested Weir International to provide a SEC complaint reserve study of the McDonald tracts, which resulted in the addition of 13.4 million tons of proven reserves and 7.5 million tons of probable reserves in approximately 20 different coal seams to our Elk Creek reserve base. Reserve amounts presented in the table above exclude tonnage leased from McDonald Land since it was acquired in 2020.

(5) We acquired two mining permits from various affiliates of Omega Highwall Mining, LLC in the fourth quarter of 2019. Consideration for the transaction included assumption of approximately $0.6 million of ARO liability, curing minor lease defaults, and paying advance royalties under two assumed lease instruments. The 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 in the Jawbone Seam, containing approximately 2.65 million tons of underground accessed geologically advantaged metallurgical coal, and a surface mine in the Tiller and Red Ash seams that is spade ready for production, containing approximately 800,000 tons of coal that can be mined via the surface and highwall mining methods. Reserve amounts presented in the table above exclude tonnage acquired from Omega since transfer of the permits was not completed until January 2020.

These reserve estimates were assessed based on benchmark coal sales pricing at the time of reserve reporting for each property. Utilizing the three-year average semi-soft coking coal historical benchmark price of approximately

$88 per short ton for coal produced at Elk Creek, RAM and Knox Creek, our mineral reserves at each such mines are economic. Utilizing a three-year average premium hard coking coal historical benchmark price of approximately $104 per short ton, our mineral reserves at our Berwind mine are projected to be economic when we reach our targeted coal reserve in the Pocahontas No.4 Seam in 2020.

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 9 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 Wall Street Reform and Consumer Protection 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.

Our common stock is listed on the NASDAQ Global Select Market under the symbol "METC."

Holders

As of the close of business on February 20, 2020, there were thirty-seven holders of record of our 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

We have never declared or paid cash dividends on our common stock. See Item 7 of Part II, "Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources."

Item 6. Selected Financial Data

On February 8, 2017, in connection with the closing of our IPO, we completed a corporate reorganization (the "Reorganization") pursuant to which all the interests in Ramaco Development, LLC ("Ramaco Development"), our accounting predecessor, were exchanged for newly issued shares of common stock of Ramaco Resources and as a result, Ramaco Development became a wholly-owned subsidiary of Ramaco Resources. As such, the financial information presented below and in Part II, Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations" for the periods through February 8, 2017 pertain to the historical financial statements and results of operations of Ramaco Development.

The selected historical consolidated financial data were derived from our audited historical consolidated financial statements included elsewhere in this annual report. Historical results are not necessarily indicative of future results. Please read the following table in conjunction with "Management's Discussion and Analysis of Financial

Condition and Results of Operations," the historical consolidated financial statements of our predecessor and accompanying notes included elsewhere in this annual report.

	Year Ended December 31,				
(In thousands)	**2019**	**2018**	**2017**	**2016**	**2015**
Income Statement data:					
Revenue	$ 230,213	$ 227,574	$ 61,036	$ 5,216	$ —
Cost and expenses					
Cost of sales (exclusive of items shown separately below)	162,470	176,555	60,521	4,397	—
Other operating costs and expenses	—	—	258	416	934
Asset retirement obligation accretion	511	494	405	229	75
Depreciation and amortization	19,521	12,423	3,154	252	—
Selling, general and administrative	18,179	14,006	12,591	7,452	1,324
Total cost and expenses	200,681	203,478	76,929	— 12,746	2,333
Operating income (loss)	29,532	24,096	(15,893)	(7,530)	(2,333)
Other income	1,758	2,518	204	—	—
Interest expense, net	(1,193)	(1,427)	272	15	(2)
Income (loss) before tax	$ 30,097	$ 25,187	$ (15,417)	$ (7,515)	$ (2,335)
Income tax expense	5,163	113	—	—	—
Net income (loss)	$ 24,934	$ 25,074	$ (15,417)	$ (7,515)	$ (2,335)
Basic earnings (loss) per share	$ 0.61	$ 0.63	$ (0.41)		
Diluted earnings (loss) per share	$ 0.61	$ 0.62	$ (0.41)		
Cash Flow Data:					
Cash flows from operating activities	$ 42,382	$ 36,183	$ (8,469)	$ (3,861)	$ (1,916)
Cash flows from investing activities	(45,722)	(42,937)	(19,802)	(77,463)	(3,464)
Cash flows from financing activities	2,825	7,916	29,292	85,527	6,374
Net change in cash and cash equivalents	$ (515)	$ 1,162	$ 1,021	$ 4,203	$ 994
Operating Data:					
Tons sold:					
Company produced	1,872	1,721	372	-	-
Purchased	78	427	236	15	-
Total tons sold	1,950	2,148	608	15	-
Tons produced	1,855	1,750	548	-	-

	December 31,				
	2019	**2018**	**2017**	**2016**	**2015**
Balance Sheet Data:					
Cash and cash equivalents	$ 5,532	$ 6,951	$ 5,934	$ 5,197	$ 994
Property, plant and equipment – net	178,202	149,205	115,451	46,434	13,958
Total Assets	226,813	188,244	148,098	119,209	20,352
Current maturities of long-term debt	3,333	5,000	—	—	—
Long-term debt, less current portion	9,614	4,474	—	10,629	10,683
Other long-term obligations	20,705	12,816	12,276	9,435	2,095
Total stockholders' equity	170,083	141,109	113,397	83,788	6,660

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

The following discussion 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 have a 242 million ton reserve base of high-quality metallurgical coal and a development portfolio including four primary properties. Our plan is to continue development of our existing properties and grow production to 4-4.5 million clean tons of metallurgical coal by the year 2023, subject to market conditions, permitting and additional capital deployment. We may make acquisitions of reserves or infrastructure that continue our focus on advantaged geology and lower costs.

During 2019, we sold 1.95 million tons of coal. Of this, 75% was sold in North American markets and 25% was sold in export markets principally to Europe and Asia. We also purchase coal from third parties for sale for our own account although these volumes significantly decreased throughout 2019. Sales of higher margin Company produced coal made up 96% of total sales in 2019 as compared with 80% in 2018.

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. have been driven in recent periods by several market dynamics and trends, such as the global economy, a strong U.S. dollar and accelerating production cuts.

Metallurgical coal markets weakened significantly during 2019 as certain China ports placed restrictions on imported coal. Between these restrictions, concerns about the stability of the global economy and the ongoing trade dispute between China and the U.S., metallurgical coal prices dropped meaningfully during the period. Pricing has rebounded off of recent lows, as Chinese buyers have taken advantage of the fact that the price of importing metallurgical coal is materially cheaper than buying within China, thereby taking advantage of this arbitrage opportunity.

On December 31, 2019, a human infection originating in China was traced to a novel strain of coronavirus. The virus has subsequently spread to more than two dozen countries including the United States. On January 30, 2020, the World Health Organization declared that the recent coronavirus outbreak as a global health emergency. The United States and other countries have placed travel restrictions to China and several businesses in China have temporarily closed. The current and anticipated economic impact of these actions have caused declines in many commodity prices, including a modest decline in metallurgical coal prices. It is too early to know the impact the coronavirus will have on demand for our metallurgical coal.

The annual contracting season with North American steel producers generally occurs in late-summer through the fall. As of December 31, 2019, we had entered into forward sales contracts with North American customers for 2020 on a fixed price basis for 1.5 million tons of metallurgical coal at an average realizable price of $93.29/ton FOB mine. This level of pricing in 2020 is lower than we realized in 2019 and is due to a combination of factors, including the impact of the Chinese port restrictions discussed above, lower year-over-year steel prices, changes in types of coal qualities purchased by customers in 2020 and general economic concerns in the United States.

In 2019, our capital expenditures totaled approximately $45.7 million. We continued to invest in infrastructure and mine equipment at our Elk Creek mining complex, primarily related to increasing our long-term refuse disposal. We also continued development mining at our Berwind mine and committed some capital to confirm the feasibility of a Jawbone mine at Knox Creek.

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 disputed our claim for coverage based on certain exclusions to the applicable policy and therefore on August 21, 2019 we filed suit seeking a declaratory judgment that the partial silo collapse was an insurable event and to require coverage under our policy. Please see "Commitments and Contingencies," Note 9 to the Consolidated Financial Statements for further discussion of this matter.

Results of Operations

	Year ended December 31,		
(In thousands)	**2019**	**2018**	**2017**
Consolidated statement of operations data			
Revenue	$ 230,213	$ 227,574	$ 61,036
Cost and expenses			
Cost of sales (exclusive of items shown separately below)	162,470	176,555	60,521
Other operating costs and expenses	—	—	258
Asset retirement obligation accretion	511	494	405
Depreciation and amortization	19,521	12,423	3,154
Selling, general and administrative	18,179	14,006	12,591
Total cost and expenses	200,681	203,478	76,929
Operating income	29,532	24,096	(15,893)
Other income	1,758	2,518	204
Interest expense, net	(1,193)	(1,427)	272
Income before tax	30,097	25,187	(15,417)
Income tax expense	5,163	113	—
Net income	$ 24,934	$ 25,074	$ (15,417)
Adjusted EBITDA	$ 55,382	$ 42,169	$ (9,310)

Adjusted EBITDA was $55.4 million in 2019, which was 31% above that for 2018. We sold 1.9 million tons of Company produced tons at realized pricing of $109/ton, our highest year on record. The strong pricing was reflective of our decision in 2018 to commit the majority of our 2019 sales tons into the domestic steel market.

Development of our Berwind mining complex began in late 2017. We expect the Berwind mine to achieve full commercial production in late-2020 from two deep mine operations. These development efforts contributed to higher cash costs of production and higher capital expenditures during 2019 and 2018.

Year Ended December 31, 2019 compared to Year Ended December 31, 2018

Revenue. Our revenue includes sales to customers of Company produced coal and 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, 2019, we had revenue of $230.2 million from the sale of 1.95 million tons of coal including 0.1 million tons of purchased coal. For the year ended December 31, 2018, we had revenue of $227.6 million from the sale of coal. During 2018, we sold 2.1 million tons of coal including 0.4 million tons of purchased coal.

Coal sales information is summarized as follows:

(In thousands)	Year ended December 31, 2019	2018	Increase
Company Produced			
Coal sales revenue	$ 219,911	$ 179,078	$ 40,833
Tons sold	1,872	1,721	151
Purchased from Third Parties			
Coal sales revenue	$ 10,302	$ 48,496	$ (38,194)
Tons sold	78	427	(349)

Cost of sales. Our cost of sales totaled $162.4 million for 2019 as compared to $176.6 million for 2018. The total cash cost per ton sold (FOB mine) during 2019 was approximately $73 for Company produced coal as compared with $63 for 2018. Cash costs at Berwind are somewhat higher during its development phase than that at our Elk Creek complex. Additionally, the silo failure in late-2018 adversely impacted our cash costs until our preparation plant was restored to its full capacity.

The cost of sales for coal we purchased from third parties declined to $8.8 million in 2019 from $40.6 million in 2018. Purchased coal volumes declined substantially in 2019 as smaller producers exited local markets. Higher volumes of Company produced coal partially offset the lower volumes of purchased coal in 2019. The more favorable cash profile of our Company produced coal contributed significantly to the lower overall cost of sales for 2019 as compared with 2018.

Asset retirement obligation accretion. Our asset retirement obligation ("ARO") accretion was $0.5 million for 2019 approximately equal to that for 2018.

Depreciation and amortization. Depreciation of our plant and equipment totaled $14.2 million for the year ended December 31, 2019 as compared with $9.8 million for the previous year. Higher depreciation expense for 2019 was principally due to the increase in mining operations. Amortization of capitalized development costs totaled $5.3 million in 2019 as compared with $2.7 million for the previous year. The increase in amortization of development costs in 2019 was driven by higher coal production from our properties.

Selling, general and administrative expenses. Selling, general and administrative expenses were $18.1 million for the year ended December 31, 2019 as compared with $14.0 million for 2018. This increase reflects the growth of our organization including higher stock-based compensation expense. Stock-based compensation expense increased $1.5 million to $4.1 million in 2019 from $2.6 million in 2018.

Other income. Other income was $1.8 million for 2019 and $2.5 million in 2018. Other income primarily includes third-party royalty income and rail rebates received, each of which declined in 2019. Third-party royalty income declined as the smaller producer mining this property ceased operations. The amounts of rail rebates received depends on our sales mix. In 2019, a larger percentage of our shipments were into domestic markets which have a lower rebate rate.

Interest expense, net. Interest expense, net was approximately $1.2 million in 2019, a decrease of $0.2 million as compared with the prior year. This decrease was driven by more favorable borrowing costs during 2019.

Income tax expense. The effective tax rate for the year ended December 31, 2019 was 17.2%, compared to 0.4% for 2018. The primary difference from the statutory rate of 21% is related to permanent differences for state income taxes, non-deductible expenses and the difference in depletion expense between U.S. GAAP and federal income tax purposes. In 2018, we removed the valuation allowance against deferred taxes which substantially reduced our effective tax rate.

Year Ended December 31, 2018 compared to Year Ended December 31, 2017

Please see Part I, Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations" in our 2018 Annual Report on Form 10-K for a discussion of the results of operation for the year ended December 31, 2018 as compared to the year ended December 31, 2017.

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 and amortization expenses and any transaction related costs. A reconciliation of net income to Adjusted EBITDA is included below. Adjusted EBITDA is not intended to serve as an alternative to U.S. GAAP measures of performance and may not be comparable to similarly-titled measures presented by other companies.

	Year ended December 31,		
(In thousands)	**2019**	**2018**	**2017**
Reconciliation of Net Income to Adjusted EBITDA			
Net income	$ 24,934	$ 25,074	$ (15,417)
Depreciation and amortization	19,521	12,423	3,154
Interest expense, net	1,193	1,427	(272)
Income taxes	5,163	113	—
EBITDA	50,811	39,037	(12,535)
Stock-based compensation	4,060	2,638	2,820
Accretion of asset retirement obligation	511	494	405
Adjusted EBITDA	$ 55,382	$ 42,169	$ (9,310)

Non-GAAP revenue per ton

Non-GAAP revenue per ton (FOB mine) is calculated as coal sales revenue less transportation costs, 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 condition. 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 an alternative to revenue under U.S. GAAP.

(In thousands, except per ton amounts)	Year ended December 31, 2019			Year ended December 31, 2018		
	Company Produced	Purchased Coal	Total	Company Produced	Purchased Coal	Total
Revenue	$ 219,911	$ 10,302	$ 230,213	$ 179,078	$ 48,496	$ 227,574
Less: Adjustments to reconcile to Non-GAAP revenue (FOB mine)						
Transportation costs	(16,253)	(424)	(16,677)	(21,281)	(5,276)	(26,557)
Non-GAAP revenue (FOB mine)	$ 203,658	$ 9,878	$ 213,536	$ 157,797	$ 43,220	$ 201,017
Tons sold	1,872	78	1,950	1,721	427	2,148
Revenue per ton sold (FOB mine)	$ 109	$ 127	$ 110	$ 92	$ 101	$ 94

Non-GAAP cash cost per ton sold

Non-GAAP cash cost per ton sold is calculated as cash cost of sales less transportation 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 condition. Cash cost per ton sold is not a measure of financial performance in accordance with U.S. GAAP and therefore should not be considered as an alternative to cost of sales under U.S. GAAP.

(In thousands, except per ton amounts)	Year ended December 31, 2019			Year ended December 31, 2018		
	Company Produced	Purchased Coal	Total	Company Produced	Purchased Coal	Total
Cost of sales	$ 153,172	$ 9,298	$ 162,470	$ 130,326	$ 46,229	$ 176,555
Less: Adjustments to reconcile to Non-GAAP cash cost of sales						
Transportation costs	(16,185)	(425)	(16,610)	(21,787)	(5,613)	(27,400)
Non-GAAP cash cost of sales	$ 136,987	$ 8,873	$ 145,860	$ 108,539	$ 40,616	$ 149,155
Tons sold	1,872	78	1,950	1,721	427	2,148
Cash cost per ton sold	$ 73	$ 114	$ 75	$ 63	$ 95	$ 69

2020 Sales Commitments

As of December 31, 2019, we had entered into forward sales contracts with North American customers for 2020 on a fixed price basis for 1.5 million tons at an average realizable price of $93.29/ton FOB mine. These volumes were all metallurgical quality coal.

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, royalty payments and other operating expenditures.

Cash flow information is as follows:

(In thousands)	Year Ended December 31, 2019	2018	2017
Consolidated statement of cash flow data:			
Cash flows from operating activities	$ 42,382	$ 36,183	$ (8,469)
Cash flows from investing activities	(45,722)	(42,937)	(19,802)
Cash flows from financing activities	2,825	7,916	29,292
Net change in cash and cash equivalents and restricted cash	$ (515)	$ 1,162	$ 1,021

Cash flows from operating activities during 2019 increased from the comparable period of the prior year primarily resulting from higher cash earnings offset by a greater amount required for working capital (receivables, inventories and accounts payable) associated with higher sales revenue.

Net cash used in investing activities was $45.7 million for the year ended December 31, 2019 as compared with $42.9 million for 2018. Capital expenditures totaled $45.7 million and $48.1 million in the 2019 and 2018 periods, respectively. We received proceeds of $5.2 million from maturing investment securities during the 2018 period.

Cash flows from financing activities were $2.8 million for the year ended December 31, 2019, which was primarily due to net borrowings during the period. Cash flows from financing activities were $7.9 million for 2018, which was due to net proceeds from short term borrowings.

Restricted cash balances at December 31, 2019 and 2018 were $1.3 million and $0.4 million, respectively, consisted of funds held in escrow for potential future workers' compensation claims and were classified in other current assets in the consolidated balance sheets.

Indebtedness

On November 2, 2018, we entered into a Credit and Security Agreement with KeyBank National Association ("KeyBank") consisting of a $10.0 million term loan, which we refinanced in November 2019, and up to $30.0 million revolving line of credit, including $1.0 million letter of credit availability (the "Revolving Credit Facility"). All personal property assets, including, but not limited to accounts receivable, coal inventory and certain surface mining equipment were pledged to secure the indebtedness. The Revolving Credit Facility has a maturity date of November 2, 2021.

The Revolving Credit Facility interest rate is based on LIBOR + 2.35% or Base Rate + 1.75%. The term loan credit interest rate was based on LIBOR + 4.75% or Base Rate + 3.75%. Base Rate is the highest of (i) KeyBank's prime rate, (ii) Federal Funds Effective Rate + 0.5%, or (iii) LIBOR + 1.0%. The loans were initially base rate loans, but may be converted to LIBOR rate loans at certain times at our discretion.

As of December 31, 2019, $3.0 million was outstanding on the Revolving Credit Facility and we had remaining availability of $16.7 million.

On November 22, 2019, we repaid the existing term loan with proceeds from a new $10 million term loan with KeyBank. The new term loan is secured with a pledge of certain underground and surface mining equipment. The new term loan interest rate is LIBOR + 5.15%. The outstanding principal balance of the new term loan is required to be repaid in 36 monthly installments of $277 thousand plus accrued interest. The outstanding principal balance of the new term loan was $9.9 million at December 31, 2019.

The Revolving Credit Facility and new term loan contain usual and customary covenants, including but not limited to, limitations on liens, additional indebtedness, investments, restricted payments, asset sales, mergers, affiliate transactions and other customary limitations, as well as financial covenants. As of December 31, 2019, we were in compliance with all covenants.

Please see 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 on the Revolving Credit Facility and new term loan.

Liquidity

As of December 31, 2019, our available liquidity was $21.8 million, comprised of cash and availability under our Revolving Credit Facility. We expect to fund our capital and liquidity requirements with cash on hand, borrowings discussed above and projected cash flow 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;
- Timely payment 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 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.

Capital Requirements

Our primary use of cash includes capital expenditures for mine development and for ongoing operating expenses. During 2019 we spent $45.7 million primarily for the purchase of mining equipment, infrastructure and development of mines at our Elk Creek and Berwind mining complexes. We anticipate capital expenditures of $25 million to $30 million in 2020 for mine equipment and development.

Management believes that current cash on hand, cash flow from operations and available liquidity under our Revolving Credit Facility will be sufficient to meet its capital expenditure and operating plans. We expect to fund any new reserve acquisitions from cash on hand, cash from operations and potential future issuances of debt or equity securities.

If future cash flows are insufficient to meet our liquidity needs or capital requirements, we may reduce our expected level of capital expenditures and/or fund a portion of our capital expenditures through the issuance of debt or equity securities, the entry into debt arrangements or from other sources, such as asset sales.

Contractual Obligations

The following table summarizes our contractual obligations as of December 31, 2019:

	Payments due by period				
(In thousands)	**Total**	**Less Than 1 year**	**1 – 3 years**	**3 – 5 years**	**More than 5 years**
Minimum royalty obligations	$ 38,487	$ 5,146	$ 11,418	$ 10,146	$ 11,777
Asset retirement obligations, discounted	14,605	19	1,314	318	12,954
Take or pay obligations	1,138	1,138	—	—	—
Total	$ 54,230	$ 6,303	$ 12,732	$ 10,464	$ 24,731

Off-Balance Sheet Arrangements

As of December 31, 2019, we had no off-balance sheet arrangements.

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.

Mine development costs. Mine development costs represent the costs incurred to prepare future mine sites and/or seams of coal for 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. Mine development costs are capitalized and amortized on a units-of-production basis as mining of the associated mine's assigned reserves takes place. Operating expenditures, including certain professional fees and overhead costs, are not capitalized but are expensed as incurred.

Asset retirement obligations. We 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 becomes determinable, 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.

Estimating the future 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, timing of settlement and changes in the legal, regulatory, environmental and political environments. To the extent future revisions to these assumptions impact the fair value of the existing ARO liability, a corresponding adjustment is made to the related asset.

Impairment of Long-lived Assets. We review our long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. These events and circumstances 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 we use a long-lived asset or a change in its physical condition.

When such events or changes in circumstances occur, a recoverability test is performed 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 is recorded for the excess of the carrying amount over the estimated fair value.

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.

Stock-based compensation expense. Compensation cost for equity incentive awards is based on the fair value of the equity instrument generally on the date of grant and is recognized over the requisite service period.

The fair value of restricted stock awards is determined using the publicly-traded price of our common stock on the grant date. The fair value of option awards is 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.

Income Taxes. 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. We initially recognize the effects of a tax position when it is more than 50 percent 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.

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.

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. Our coal is sold under short-term fixed price contracts, term transactions utilizing index pricing or on a spot basis. As such, we are exposed to changes in the international price of metallurgical coal. We attempt to manage this risk by keeping tight control over our mining costs.

Interest Rate Risk

As we have limited debt, we are not overly exposed to interest rate risk. Should we incur additional debt in the future or increase our cash position, the general level of interest rates will begin to take on greater importance. At that time, we will manage our exposure through a variety of financial tools designed to minimize exposure to interest rate fluctuations.

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 FINANCIAL STATEMENTS

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, 2019 and 2018, and the related consolidated statements of income, equity, and cash flows for each of the years in the three-year period ended December 31, 2019, and the related notes (collectively referred to as the financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2019, 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 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. 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 audits, 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 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.

/s/ Briggs & Veselka Co.

We have served as the Company's auditor since 2015.

Houston, Texas
February 20, 2020

Ramaco Resources, Inc.
Consolidated Balance Sheets

In thousands, except share and per share amounts	December 31, 2019	December 31, 2018
Assets		
Current assets:		
Cash and cash equivalents	$ 5,532	$ 6,951
Accounts receivable	19,256	10,729
Inventories	15,261	14,185
Prepaid expenses and other	4,274	3,154
Total current assets	44,323	35,019
Property, plant and equipment – net	178,202	149,205
Advanced coal royalties	3,271	3,045
Other	1,017	975
Total Assets	$ 226,813	$ 188,244
Liabilities and Stockholders' Equity		
Liabilities		
Current liabilities		
Accounts payable	$ 10,663	$ 16,393
Accrued expenses	11,740	8,094
Asset retirement obligations	19	71
Current portion of long-term debt	3,333	5,000
Other	656	287
Total current liabilities	26,411	29,845
Asset retirement obligations	14,586	12,707
Long-term debt, net	9,614	4,474
Deferred tax liability	5,265	109
Other long-term liabilities	854	—
Total liabilities	56,730	47,135
Commitments and contingencies	—	—
Stockholders' Equity		
Preferred stock, $0.01 par value, 50,000,000 shares authorized, none issued and outstanding	—	—
Common stock, $0.01 par value, 260,000,000 shares authorized, 40,933,831 and 40,082,467 shares issued and outstanding, respectively	410	401
Additional paid-in capital	154,957	150,926
Retained earnings (deficit)	14,716	(10,218)
Total stockholders' equity	170,083	141,109
Total Liabilities and Stockholders' Equity	$ 226,813	$ 188,244

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

Ramaco Resources, Inc.
Consolidated Statements of Income

In thousands, except per share amounts	Year ended December 31, 2019	2018	2017
Revenue	$ 230,213	$ 227,574	$ 61,036
Cost and expenses			
Cost of sales (exclusive of items shown separately below)	162,470	176,555	60,521
Other operating costs and expenses	—	—	258
Asset retirement obligation accretion	511	494	405
Depreciation and amortization	19,521	12,423	3,154
Selling, general and administrative	18,179	14,006	12,591
Total cost and expenses	200,681	203,478	76,929
Operating income (loss)	29,532	24,096	(15,893)
Other income	1,758	2,518	204
Interest expense, net	(1,193)	(1,427)	272
Income (loss) before tax	30,097	25,187	(15,417)
Income tax expense	5,163	113	—
Net income (loss)	$ 24,934	$ 25,074	$ (15,417)
Earnings (loss) per common share			
Basic	$ 0.61	$ 0.63	$ (0.41)
Diluted	$ 0.61	$ 0.62	$ (0.41)
Basic weighted average shares outstanding	40,838	40,039	37,578
Diluted weighted average shares outstanding	40,838	40,263	37,578

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

Ramaco Resources, Inc.
Consolidated Statements of Equity

In thousands	Common Stock	Additional Paid-in Capital	Retained Earnings (Deficit)	Total Stockholders' Equity
Balance at January 1, 2017	$ —	$ 13,266	$ (18,251)	$ (4,985)
Accretion - Series A preferred units	—	—	(124)	(124)
Distributions on Series A preferred units	—	—	(1,500)	(1,500)
Issuance of common stock in Reorganization	225	(225)	—	—
Conversion of Series A preferred units into common stock	128	88,770	—	88,898
Proceeds from sale of common stock	38	43,667	—	43,705
Stock-based compensation	5	2,815	—	2,820
Net loss	—	—	(15,417)	(15,417)
Balance at December 31, 2017	396	148,293	(35,292)	113,397
Stock-based compensation	5	2,633	—	2,638
Net income	—	—	25,074	25,074
Balance at December 31, 2018	401	150,926	(10,218)	141,109
Restricted stock surrendered for withholding taxes payable	—	(20)	—	(20)
Stock-based compensation	9	4,051	—	4,060
Net income	—	—	24,934	24,934
Balance at December 31, 2019	$ 410	$ 154,957	$ 14,716	$ 170,083

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

Ramaco Resources, Inc.
Consolidated Statements of Cash Flows

In thousands	Years ended December 31, 2019	2018	2017
Cash flows from operating activities			
Net income (loss)	$ 24,934	$ 25,074	$ (15,417)
Adjustments to reconcile net income (loss) to net cash from operating activities:			
Accretion of asset retirement obligations	511	494	405
Depreciation and amortization	19,521	12,423	3,154
Amortization of debt issuance costs	58	569	—
Stock-based compensation	4,060	2,638	2,820
Deferred income taxes	5,156	109	—
Changes in operating assets and liabilities:			
Accounts receivable	(8,527)	(3,563)	(6,251)
Prepaid expenses and other current assets	723	(629)	(431)
Inventories	(1,076)	(4,127)	(8,539)
Other assets and liabilities	689	(835)	(1,114)
Accounts payable	(7,313)	(1,521)	15,535
Accrued expenses	3,646	5,551	1,369
Net cash from operating activities	42,382	36,183	(8,469)
Cash flow from investing activities:			
Purchases of property, plant and equipment	(45,722)	(48,137)	(75,039)
Proceeds from maturities of investment securities	—	5,200	55,237
Net cash from investing activities	(45,722)	(42,937)	(19,802)
Cash flows from financing activities			
Proceeds from borrowings	73,750	28,424	—
Proceeds from notes payable - related party	—	3,000	—
Payments of debt issuance cost	—	(569)	—
Repayment of borrowings	(70,335)	(18,950)	(500)
Repayment of notes payable - related party	—	(3,000)	—
Repayments of financed insurance payable	(570)	(989)	(127)
Restricted stock surrendered for withholding taxes payable	(20)	—	—
Proceeds from issuance of common stock	—	—	47,709
Payments of equity offering costs	—	—	(1,756)
Repayments to Ramaco Coal, LLC	—	—	(10,629)
Payment of distributions	—	—	(5,405)
Net cash from financing activities	2,825	7,916	29,292
Net change in cash and cash equivalents and restricted cash	(515)	1,162	1,021
Cash and cash equivalents and restricted cash, beginning of period	7,380	6,218	5,197
Cash and cash equivalents and restricted cash, end of period	$ 6,865	$ 7,380	$ 6,218
Supplemental cash flow information:			
Cash paid for interest	$ 999	$ 826	$ 88
Cash paid for taxes	—	—	—
Non-cash investing and financing activities:			
Capital expenditures included in accounts payable and accrued expenses	2,902	1,319	5,236
Financed insurance	939	1,276	—
Additional asset retirement obligations incurred	516	—	1,813

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 AND BASIS OF PRESENTATION

Description of the Business

Ramaco Resources, Inc. ("Ramaco" or the "Company") is a Delaware corporation formed in October 2016. Our principal corporate offices are located in Lexington, Kentucky. We are an operator and developer of high-quality, low-cost metallurgical coal in southern West Virginia, southwestern Virginia, and southwestern Pennsylvania.

As used herein, "the Company," "we," "us," "our," and similar terms include Ramaco Resources, Inc. and its subsidiaries, unless the context indicates otherwise.

Our development portfolio includes four primary properties: Elk Creek, Berwind, RAM Mine and Knox Creek. We believe each of these projects possesses geologic and logistical advantages that make our coal among the lowest delivered-cost U.S. metallurgical coal to a majority of our domestic target customer base, North American blast furnace steel mills and coke plants, as well as international metallurgical coal consumers.

We operate three deep mines and a surface mine at our Elk Creek mining complex. Development of this complex commenced in 2016 and included construction of a preparation plant and rail load-out facilities. Development of our Berwind mining complex began in late 2017. We expect the Berwind mine to achieve commercial production in late-2020 from two deep mine sections. The Knox Creek preparation plant processes coal from our Berwind mine as well as coal we may purchase from or toll wash for third parties. Our RAM Mine property is scheduled for initial production in 2022, subject to permitting and market conditions.

Initial Public Offering

On February 8, 2017, we completed the initial public offering ("IPO") of our common stock. Pursuant to the IPO, we registered the sale of 6.0 million shares of our common stock, which included 3.8 million shares sold by the Company and 2.2 million shares sold by selling stockholders. Net proceeds to the Company totaled approximately $43.7 million. We used $10.7 million of the net proceeds to repay indebtedness owed to Ramaco Coal, LLC, an affiliated entity. The remaining proceeds were used for general corporate purposes including development of the Elk Creek mining complex and Berwind mine. All units of our then-outstanding convertible Series A preferred units automatically converted into an aggregate of 12.76 million shares of common stock at the time of the IPO.

Basis of Presentation

Pursuant to the terms of a corporate reorganization (the "Reorganization") that was completed in connection with the closing of our IPO, all the interests in Ramaco Development, LLC were exchanged for our newly issued common shares and as a result, Ramaco Development, LLC became our wholly-owned subsidiary. Therefore, the financial information for periods before February 8, 2017 pertain to the historical financial statements and results of operations of Ramaco Development, LLC.

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. Intercompany balances and transactions between consolidated entities have been eliminated in consolidation.

NOTE 2—SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

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, contingencies and the quantities and values of coal reserves.

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. We adopted Accounting Standards Update ("ASU") 2014-09, *Revenue from Contracts with Customers*, on January 1, 2018 using the modified retrospective method. The core principle of ASU 2014-09 is to recognize revenue in a way that depicts the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled to in exchange for those goods or services. Before adoption of the new standard, revenue was recognized when risk of loss passed to our customer. The timing of revenue recognition for our coal sales remained consistent between the new and previous standards. There was no material impact on our consolidated financial statements from adopting the new standard but we have expanded disclosure about our revenue.

For periods subsequent to January 1, 2018, 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 small.

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, 2019 and 2018 were $1.3 million and $0.4 million, respectively, consisted of funds held in escrow for potential future workers' compensation claims and were classified in other current assets in the consolidated balance sheets.

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 on a first-in, first-out inventory valuation method. Coal inventory costs include labor, supplies, equipment costs, freight and operating overhead. Coal inventory quantities are adjusted periodically based on aerial surveys of coal stockpiles. Supply inventories totaled $2.9 million at December 31, 2019 and are valued at average cost.

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 properties 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.

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

The capitalized mine development costs are 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 long-lived assets, including property, plant and equipment and mine development costs, for impairment when events or changes in circumstances indicate that the asset's carrying value may not be recoverable. Recoverability is measured by comparing the net book value to the fair value. When the net book value exceeds the fair value, an impairment loss is measured and recorded.

If it is determined that an undeveloped mineral interest cannot be economically converted to proven and probable reserves, or that the recoverability of capitalized mine development costs is uncertain, such capitalized costs are reduced to their net realizable value and an impairment loss is recorded to expense and future development costs are expensed as incurred.

Asset Retirement Obligations—Legal obligations associated with the retirement of long-lived assets are reflected at their estimated fair value, with a corresponding charge to 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. We estimate and 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 each period and the capitalized cost is amortized using the units-of-production method over estimated recoverable reserves upon commencement of mining.

Self-Insurance—We are self-insured for certain losses relating to workers' compensation claims. 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 current and historical claims experience and certain actuarial assumptions. As of December 31, 2019, the estimated aggregate liability for uninsured claims totaled $1.0 million. Of this, $0.7 million is included in other long-term liabilities within the consolidated balance sheets. These estimates are subject to uncertainty due to a variety of factors, including extended lag times in the reporting and resolution of claims, and trends or changes in claim settlement patterns, insurance industry practices and legal interpretations. As a result, actual costs could differ significantly from the estimated amounts. Adjustments to estimated liabilities are recorded in the period in which the change in estimate occurs.

Leases—We determine if an arrangement is a lease at inception. Operating leases are included in other current assets, other current liabilities, and other long-term liabilities in our consolidated balance sheets. We do not have any finance leases.

Right of use ("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 lease ROU assets and liabilities are recognized at commencement date based on the present value of lease payments over the lease term. As most of our leases do not provide an 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 lease ROU asset also includes any lease payments made and excludes lease incentives. Our lease terms may include options to extend or terminate the lease when it is reasonably certain that we will exercise that option. Lease expense for lease payments is recognized on a straight-line basis over the lease term.

Leases of mineral reserves are exempted under U.S. GAAP from recognition within the financial statements.

Fair Value Measurements— For assets and liabilities that are recognized or disclosed at fair value in the consolidated financial statements, 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. We use a three-level fair value hierarchy that categorizes assets and liabilities measured at fair value based on the observability of the inputs utilized in the valuation. These levels 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.

Income Taxes—Prior to the Reorganization discussed in Note 1, we were a limited liability company taxed as a partnership. Accordingly, no provision for federal or state income taxes has been recognized in these financial statements for periods before the Reorganization on February 8, 2017.

Income taxes are accounted for using a balance sheet approach. We account for deferred income taxes by applying statutory tax rates in effect at the reporting date of the balance sheet to differences between the book and tax basis of assets and liabilities. 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.

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 unrecognized tax positions at December 31, 2019 or 2018. 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 is currently open for all tax returns filed.

Segment Reporting—Our properties located in West Virginia, Virginia and Pennsylvania each consist of mineral reserves for production of metallurgical coal from both underground and surface mines. These operations are within the Appalachia 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 economic characteristics, resulting in similar long-term expected financial performance.

Stock-Based Compensation—We account for employee stock-based compensation using the fair value method. Compensation cost for equity incentive awards is based on the fair value of the equity instrument generally on the date of grant and is recognized over the requisite service period. Forfeitures are recognized as they occur.

The fair value of restricted stock awards is determined using the publicly-traded price of our common stock on the grant date. The fair value of option awards is 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 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 operations. For the year ended December 31, 2019, approximately 75% of our sales were derived from coal shipments to customers in North American markets.

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 maintain deposits in federally insured financial institutions in excess of federally insured limits. We monitor the credit ratings and concentration of risk with these financial institutions on a continuing basis to safeguard cash deposits.

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 doubtful accounts based on an analysis of specific customers, taking into consideration the age of past due accounts and an assessment of the customer's ability to pay. An allowance for doubtful accounts was not needed as of December 31, 2019 or 2018.

During 2019, sales to two customers accounted for approximately 42% of total revenue. The total balance due from these customers at December 31, 2019 was approximately 58% of total accounts receivable. During 2018, sales to five customers accounted for approximately 63% of total revenue. The total balance due from these customers at December 31, 2018 was approximately 72% of total accounts receivable.

Reclassifications—Financial statements presented for prior periods include reclassifications that were made to conform to the current-year presentation.

Recent Accounting Pronouncements—In May 2014, the FASB issued Accounting Standards Update ("ASU") 2014-09, *Revenue from Contracts with Customers*. The new standard supersedes nearly all existing revenue recognition guidance under U.S. GAAP. The core principle of ASU 2014-09 is to recognize revenue in a way that depicts the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled to in exchange for those goods or services. ASU 2014-09 defines a five-step process to achieve this core principle and, in doing so, it is possible that more judgment and estimates may be required within the revenue recognition process than is required under present U.S. GAAP. These may include identifying performance obligations in the contract, estimating the amount of variable consideration to include in the transaction price, and allocating the transaction price to each separate performance obligation. The new standard also requires additional disclosure about the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts, including significant judgments and changes in judgments. We adopted this new standard on January 1, 2018 using the modified retrospective method of adoption. The adoption of this standard did not have a material effect on our financial position, results of operations or cash flows, but resulted in increased disclosures related to revenue recognition policies and disaggregation of revenue.

In February 2016, the FASB issued ASU 2016-02, *Leases*, which aims to make leasing activities more transparent and comparable and requires substantially all leases be recognized by lessees on their balance sheet as a right-of-use asset and corresponding lease liability, including leases currently accounted for as operating leases. Leases of mineral reserves and related land leases are exempted from the standard. We adopted ASU 2016-02 on January 1, 2019. We elected the "package of practical expedients" within the standard which permits us not to reassess prior conclusions about lease identification, lease classification and initial direct costs. We made an accounting policy election to not separate lease and non-lease components for all leases. The adoption of this standard resulted in the recognition of right-of-use assets and lease liabilities of $0.3 million, which were not previously recorded on our consolidated balance sheet.

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments—Credit Losses*, which replaces the existing incurred loss impairment model with a methodology that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information to inform credit loss estimates. The standard will be effective for us in the first quarter of our fiscal year 2020. We do not expect that the adoption of this ASU will have a significant impact on our consolidated financial statements.

In August 2018, the FASB issued ASU 2018-15, *Internal-Use Software*, which addresses the accounting for implementation costs associated with a hosted service. The standard provides that implementation costs be evaluated for capitalization using the same criteria as that used for internal-use software development costs, with amortization expense being recorded in the same income statement expense line as the hosted service costs and over the expected term of the hosting arrangement. The standard will be effective for us in the first quarter of our fiscal year 2020. We do not expect that the adoption of this ASU will have a significant impact on our consolidated financial statements.

In December 2019, the FASB issued ASU 2019-12, *Income Taxes*, which enhances and simplifies various aspects of the income tax accounting guidance, including requirements such as tax basis step-up in goodwill obtained in a

transaction that is not a business combination, ownership changes in investments, and interim-period accounting for enacted changes in tax law. The standard will be effective for us in the first quarter of our fiscal year 2021. We do not expect that the adoption of this ASU will have a significant impact on our consolidated financial statements.

NOTE 3—PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment consisted of the following:

	December 31,	
(In thousands)	**2019**	**2018**
Plant and equipment	$ 142,773	$ 109,911
Construction in process	11,986	12,066
Capitalized mine development cost	58,773	43,037
Less: accumulated depreciation and amortization	(35,330)	(15,809)
Total property, plant and equipment, net	$ 178,202	$ 149,205

Capitalized amounts related to coal reserves at properties where we are not currently engaged in mining operations totaled $12.7 million as of December 31, 2019 and $5.5 million as of December 31, 2018.

Depreciation and amortization included:

	Year ended December 31,		
(In thousands)	**2019**	**2018**	**2017**
Depreciation of plant and equipment	$ 14,219	$ 9,751	$ 2,618
Amortization of capitalized mine development costs	5,302	2,672	536
Total depreciation and amortization	$ 19,521	$ 12,423	$ 3,154

On March 29, 2017, we acquired approximately 14,800 acres of coal properties in Tazewell and Buchanan Counties, Virginia and McDowell County, West Virginia including several coal leaseholds adjacent to our Knox Creek operations. We paid $125,000 for the properties, a portion of which is recoupable from future production, and agreed to pay an overriding royalty on production from properties not already subleased.

In the fourth quarter of 2019, we acquired multiple permits from various affiliates of Omega Highwall Mining, LLC. Consideration for the transaction included assumption of approximately $0.6 million of ARO liability, curing minor lease defaults, and paying advance royalties under two assumed lease instruments. The total out-of-pocket consideration was less than $0.1 million, most of which is recoupable against future royalty payments. 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.

On January 3, 2020, we entered into a mineral lease with the McDonald Land Company for coal reserve tracts which, in many cases, are located immediately adjacent to our Elk Creek complex. This lease adds more than 21 million proven and probable reserves in approximately 20 different coal seams to our Elk Creek reserve base.

NOTE 4—FAIR VALUES OF FINANCIAL INSTRUMENTS

The carrying amounts and fair values of our financial assets and liabilities were as follows:

(In thousands)	December 31, 2019 Carrying Amount	December 31, 2019 Fair Value	December 31, 2018 Carrying Amount	December 31, 2018 Fair Value
Financial Assets:				
Cash and cash equivalents	$ 5,532	$ 5,532	$ 6,951	$ 6,951
Accounts receivable	19,256	19,256	10,729	10,729
Other current assets - restricted cash	1,333	1,333	429	429
Financial liabilities:				
Accounts payable	(10,663)	(10,663)	(16,393)	(16,393)
Debt	(12,947)	(12,947)	(9,474)	(9,474)
Other current liabilities - financed insurance payable	(656)	(656)	(287)	(287)

We use a market approach to determine the fair value of our fixed-rate debt using observable market data, which resulted in a Level 2 fair-value measurement.

Nonrecurring fair value measurements include asset retirement obligations, the estimated fair value of which is calculated as the present value of estimated cash flows related to its reclamation liabilities using Level 3 inputs. The significant inputs used to calculate such liabilities include estimates of costs to be incurred, our credit adjusted discount rate, inflation rates and estimated date of reclamation.

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. Spending estimates were escalated for inflation at 2% per year and the estimated cash outflows were then discounted at 4% at December 31, 2019 and 2018. Amounts recorded related to asset retirement obligations were as follows:

(In thousands)	Year Ended December 31, 2019	Year Ended December 31, 2018
Balance at beginning of year	$ 12,778	$ 12,347
Additional asset retirement obligations acquired/incurred	800	131
Accretion expense	511	494
Revisions to estimates	516	(194)
Balance at end of year	$ 14,605	$ 12,778

NOTE 6—DEBT

Our outstanding debt consisted of the following:

(In thousands)	December 31, 2019	December 31, 2018
Term loan	$ 9,947	$ 9,589
Revolving Credit Facility	3,000	—
Debt discount, net	—	(115)
Total debt	$ 12,947	$ 9,474
Current portion of long-term debt	3,333	5,000
Long-term debt, net	$ 9,614	$ 4,474

On November 2, 2018, we entered into a Credit and Security Agreement with KeyBank National Association ("KeyBank") consisting of a $10.0 million term loan, which we refinanced in November 2019, and up to $30.0 million

revolving line of credit, including $1.0 million letter of credit availability (the "Revolving Credit Facility"). All personal property assets, including, but not limited to accounts receivable, coal inventory and certain surface mining equipment were pledged to secure the indebtedness. The Revolving Credit Facility has a maturity date of November 2, 2021.

The Revolving Credit Facility interest rate is based on LIBOR + 2.35% or Base Rate + 1.75%. The term loan credit interest rate was based on LIBOR + 4.75% or Base Rate + 3.75%. Base Rate is the highest of (i) KeyBank's prime rate, (ii) Federal Funds Effective Rate + 0.5%, or (iii) LIBOR + 1.0%. The loans were initially base rate loans, but may be converted to LIBOR rate loans at certain times at our discretion.

As of December 31, 2019, $3.0 million was outstanding on the Revolving Credit Facility and we had remaining availability of $16.7 million.

On November 22, 2019, we repaid the existing term loan with proceeds from a new $10 million term loan with KeyBank. The new term loan is secured with a pledge of certain underground and surface mining equipment. The new term loan interest rate is LIBOR + 5.15%. The outstanding principal balance of the new term loan is required to be repaid in 36 monthly installments of $277 thousand plus accrued interest. The outstanding principal balance of the new term loan was $9.9 million at December 31, 2019.

The Revolving Credit Facility and new term loan contain usual and customary covenants, including but not limited to, limitations on liens, additional indebtedness, investments, restricted payments, asset sales, mergers, affiliate transactions and other customary limitations, as well as financial covenants. As of December 31, 2019, we were in compliance with all covenants.

Maturities of our long-term debt were as follows:

(In thousands) **Years ending December 31:**	
2020	$ 3,333
2021	6,333
2022	3,281
Total	$ 12,947

NOTE 7—LEASES

Operating Leases

We lease facilities under various noncancelable operating lease agreements. Our leases have remaining lease terms of up to three years. Operating lease expense for facilities totaled $0.2 million, $0.1 million and $0.4 million in 2019, 2018 and 2017, respectively.

At December 31, 2019, operating lease ROU assets totaled $0.2 million. Operating lease liabilities at December 31, 2019 totaled $0.2 million. Of this, $0.1 million is included in other long-term liabilities within the consolidated balance sheets.

Maturities of operating lease liabilities were as follows:

(In thousands) **Year Ending December 31,**		
2020	$	117
2021		98
2022		41
Total lease payments		256
Less imputed interest		(43)
Total	$	213

As of December 31, 2019, the weighted average remaining lease term was 1.7 years and the weighted average discount rate used in computing the lease obligations was 8.5%.

Coal Leases and Associated Royalty Commitments

Leases of mineral reserves and related land leases are exempted under U.S. GAAP from recognition within the financial statements. 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 expense was $15.6 million, $11.6 million and $1.8 million for the years ended December 31, 2019, 2018 and 2017, 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. Payments of minimum coal royalties and throughput payments for leases with Ramaco Coal, LLC commenced in 2017 pursuant to the terms of the agreements.

Future minimum lease and royalty payments for each of the next five years and thereafter were as follows:

(In thousands) **Year Ending December 31,**		
2020	$	5,146
2021		5,709
2022		5,709
2023		5,720
2024		4,426
Thereafter		11,777
Total minimum payments	$	38,487

NOTE 8—EQUITY

At December 31, 2016, Ramaco Development, LLC had 8,000,000 common units and 4,538,836 preferred units issued and outstanding. On February 8, 2017, in connection with our IPO, a corporate reorganization was completed and each unit of Ramaco Development, LLC was converted into approximately 2.81 shares of common stock. As a result, we issued 35,262,576 shares of common stock. We issued an additional 3,800,000 shares of common stock in the IPO.

We are authorized to issue up to a total of 260,000,000 shares of common stock and 50,000,000 shares of preferred stock, each having a par value of $0.01 per share. Holders of our common stock are entitled to one vote for each share held of record on all matters submitted to a vote of stockholders and to receive ratably in proportion to the shares of common stock held by them any dividends declared from time to time by the board of directors. Our common stock has no preferences or rights of conversion, exchange, pre-exemption or other subscription rights.

Stock-Based Compensation

We have a stock-based compensation plan under which stock options, restricted stock, performance-based stock awards and other stock-based awards may be granted. At December 31, 2019, 5.0 million shares were available under the current plan for future awards.

Stock Options—Options for the purchase of a total of 937,424 shares of our common stock for $5.34 per share were granted to two executives on August 31, 2016. The options have a ten-year term from the grant date and are fully vested. Stock-based compensation expense totaling $0.3 million was recognized in 2016 for these awards. The remaining $2.1 million of stock-based compensation expense associated with these awards was recognized during 2017. The options remain outstanding and unexercised and were not in-the-money at December 31, 2019.

Restricted Stock Awards—We grant restricted stock to certain senior executive employees and directors. The shares vest over one to three years from the date of grant. During the vesting period, the participants have voting rights and may receive dividends, but the shares may not be sold, assigned, transferred, pledged or otherwise encumbered. Unvested shares are forfeited upon termination of employment, unless an employee enters into another written arrangement. The fair value of the restricted shares on the date of the grant is amortized ratably over the service period. Compensation expense for restricted stock awards totaled $4.1 million for 2019, $2.6 million for 2018 and $0.7 million in 2017. As of December 31, 2019, there was $4.5 million of total unrecognized compensation cost related to unvested restricted stock to be recognized over a weighted average period of 1.6 years.

The following table summarizes restricted awards outstanding, as well as activity for the periods:

	Shares	Weighted Average Grant Date Fair Value
Outstanding at December 31, 2017	471,017	$ 5.87
Granted	528,683	8.03
Vested	(27,984)	8.04
Forfeited	(5,582)	6.27
Outstanding at December 31, 2018	966,134	$ 6.99
Granted	889,908	5.44
Vested	(211,964)	5.70
Forfeited	(15,837)	5.73
Outstanding at December 31, 2019	1,628,241	$ 6.32

The total fair value of awards vested during 2019 was $0.8 million.

In December 2019, we entered into modification agreements with 14 executives and employees holding 1.4 million shares of unvested restricted stock whereby the vesting periods for these share grants was extended an additional six months. In exchange for the modification, we made an additional restricted stock grant to each of these executives and employees. In all, we granted 22,000 additional restricted shares in the modification. Incremental compensation costs associated with these modifications totaled $0.8 million and will be recognized over a weighted average period of 1.0 years.

NOTE 9—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. Reclamation bonds outstanding at December 31, 2019 totaled approximately $13.1 million.

Purchase Commitments—We secured the ability to transport coal through rail contracts and export terminals that are sometimes funded through take-or-pay arrangements. As of December 31, 2019, commitments under take-or-pay arrangements totaled $1.1 million, all of which is obligated within the next year.

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 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 the 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. Chubb INA Holdings, Inc. has filed a motion to dismiss and Federal Insurance Company has filed a motion to remove the case to federal court in West Virginia.

NOTE 10—REVENUE

Our revenue is derived from contracts for the sale of coal which is recognized 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 either be by fixed-price or a price derived against index-based pricing mechanisms. Disaggregated information about our revenue is presented below:

	Year ended December 31,		
(In thousands)	**2019**	**2018**	**2017**
Coal Sales			
Domestic revenues	$ 164,256	$ 121,433	$ 31,199
Export revenues	65,957	106,141	27,599
Coal Processing	—	—	2,238
Total revenues	$ 230,213	$ 227,574	$ 61,036

As of December 31, 2019, outstanding performance obligations for 2020 totaled approximately 1.4 million tons for contracts having fixed pricing and 0.1 million tons for contracts with index-based pricing mechanisms.

NOTE 11—RELATED PARTY TRANSACTIONS

Mineral Lease and Surface Rights Agreements—Much of the coal reserves and surface rights that we control were acquired through a series of mineral leases and surface rights agreements with Ramaco Coal, LLC. Production royalty payables due to Ramaco Coal, LLC totaling $0.5 million and $2.9 million at December 31, 2019 and 2018, respectively, were included in accounts payable in the consolidated balance sheets. Royalties paid to Ramaco Coal, LLC in 2019 and 2018 totaled $9.0 million and $1.9 million, respectively.

Related Party Borrowings—Ramaco Coal, LLC historically funded our operating activities in periods before August 2015. Funds advanced by Ramaco Coal, LLC for our development were reflected in the consolidated balance sheets as a note payable. This note payable was subsequently paid in its entirety using proceeds from our IPO.

In May 2018, we borrowed $3.0 million from Ramaco Coal, LLC, pursuant to the Ramaco Coal Note. Interest accrued monthly at 10.0%. The Ramaco Coal Note was repaid on November 5, 2018 with proceeds from the Credit Facility.

On-going Administrative Services—Under a Mutual Services Agreement dated December 22, 2017 but effective as of March 31, 2017, the Company and Ramaco Coal, LLC agreed to share the services of certain of each company's employees. Each party will pay the other a fee on a quarterly basis for such services calculated as the annual base salary of each employee providing services multiplied by the percentage of time each employee spent providing services for the other party. The services will be provided for 12-month terms, but may be terminated by either party at the end of any 12-month term by providing written notice at least 30 days prior to the end of the then-current term. No payments were made to either party under this agreement in 2019 or 2018.

NOTE 12—INCOME TAXES

Income tax expense consisted of the following:

	Year Ended December 31,		
(In thousands)	2019	2018	2017
Current taxes:			
Federal	$ —	$ —	$ —
State	7	4	—
Current taxes	7	4	—
Deferred taxes:			
Federal	3,228	(111)	—
State	1,928	220	—
Deferred taxes	5,156	109	—
Provision for income taxes, net	$ 5,163	$ 113	$ —

The items accounting for differences between income taxes computed at the federal statutory rate and the provision recorded for income taxes were as follows:

	Year Ended December 31,		
(In thousands)	2019	2018	2017
Income taxes computed at the federal statutory rate	$ 6,320	$ 5,289	$ (5,242)
Effect of:			
(Income) loss taxed as partnership	—	—	(552)
State taxes, net of federal benefits	945	970	(610)
Percentage depletion	(2,093)	(1,033)	—
Changes in tax status	—	—	(205)
Change in valuation allowance	—	(4,464)	4,464
Change in enacted tax rates	—	—	2,119
Other, net	(9)	(649)	26
Total	$ 5,163	$ 113	$ —

Deferred tax assets and liabilities were as follows:

(In thousands)	December 31, 2019	2018
Deferred tax assets:		
Loss carryforwards U.S. - Federal/States	$ 19,512	$ 17,073
Asset retirement obligations	3,523	3,306
Accrued expenses	725	521
Stock-based compensation	2,094	1,393
Other	—	4
Total deferred tax assets	25,854	22,297
Less valuation allowance	—	—
Deferred tax assets, net	25,854	22,297
Deferred tax liabilities:		
Depreciation & amortization	(31,119)	(22,406)
Net deferred tax liabilities	$ (5,265)	$ (109)

As of December 31, 2019, our federal net operating loss carryforwards for income tax purposes were approximately $81 million. Total state loss carryforwards were approximately $57 million. If not utilized, federal and state net operating loss carryforwards approximating $60 million and $47 million, respectively, will expire between 2035 and 2037. The remaining net operating loss carryforwards have no statutory expiration.

A valuation allowance was previously established against our net deferred tax assets given our limited operating history. This valuation allowance was reversed in 2018.

Tax Cuts and Jobs Act—On December 22, 2017, the U.S. Government enacted comprehensive tax legislation referred to as the Tax Cuts and Jobs Act (the "Act"). The Act made broad and complex changes to the U.S. tax code, including but not limited to, reducing the U.S. federal corporate rate from 35% to 21%, allowing full expensing of qualified property acquired and placed in service after September 27, 2017 and imposing new limits on the deduction of net operating losses, executive compensation and net interest expense. There was no impact of the Act on our 2017 financial statements.

NOTE 13—EARNINGS (LOSS) PER SHARE

The following table is a calculation of the net earnings (loss) per basic and diluted share:

(In thousands, except per share amounts)	2019	2018	2017
Numerator			
Net income (loss)	$ 24,934	$ 25,074	$ (15,417)
Denominator			
Weighted average shares used to compute basic EPS	40,838	40,039	37,578
Dilutive effect of share-based awards	—	224	—
Weighted average shares used to compute diluted EPS	40,838	40,263	37,578
Earnings (loss) per share			
Basic	$ 0.61	$ 0.63	$ (0.41)
Diluted	$ 0.61	$ 0.62	$ (0.41)

Diluted EPS for 2019 and 2017 excludes 937,424 options to purchase our common stock because their effect would be anti-dilutive.

* * * * *

SELECTED QUARTERLY FINANCIAL DATA (UNAUDITED)

The following table presents selected quarterly financial data derived from our unaudited interim financial statements. The following data is only a summary and should be read with our historical consolidated financial statements and related notes contained in this document.

(In thousands, except per share amounts)	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
2019				
Total revenues	$ 57,460	$ 65,761	61,380	45,612
Gross profit[(a)]	16,454	22,542	16,397	12,350
Operating income	8,250	12,889	6,452	1,941
Net income	6,883	10,613	5,550	1,888
Net earnings per share: [(b)]				
Basic	$ 0.17	$ 0.26	0.14	0.05
Diluted	$ 0.17	$ 0.26	0.14	0.05
2018				
Total revenues	$ 55,943	$ 65,278	$ 62,166	$ 44,187
Gross profit[(a)]	11,612	17,418	12,760	9,229
Operating income	5,620	10,647	5,804	2,025
Net income	5,266	10,203	6,211	3,394
Net earnings per share: [(b)]				
Basic	$ 0.13	$ 0.25	$ 0.15	$ 0.08
Diluted	$ 0.13	$ 0.25	$ 0.15	$ 0.08

(a) Represents total revenue less cost of sales.
(b) The sum of quarterly per share amounts may not equal amounts reported for the annual periods due to the effects of rounding.

* * * * *

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure.

None.

Item 9A. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

Under the supervision and with the participation of our management, including the Chief Executive Officer ("CEO"), the principal executive officer, and Chief Financial Officer ("CFO"), the principal financial officer, we conducted an evaluation of the effectiveness of our disclosure controls and procedures, as such term is defined under Rule 13a-15(e) and 15d - 15(e) promulgated under the Securities Exchange Act of 1934 (the "Exchange Act"), as amended. Based on this evaluation, the CEO and CFO concluded that our disclosure controls and procedures were effective as of December 31, 2019. There have been no significant changes in our internal controls or in other factors that could significantly affect the internal controls subsequent to the date we completed the evaluation.

Management's Report on Internal Control Over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting, as defined in Rule 13a-15(f) of the 1934 Act. Management has assessed the effectiveness of our internal control over financial reporting as of December 31, 2019 based on criteria established in *Internal Control—Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. As a result of this assessment, management concluded that, as of December 31, 2019, our internal control over financial reporting was effective in providing reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting during the quarter ended December 31, 2019 that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Limitations on Controls

Our disclosure controls and procedures and internal control over financial reporting are designed to provide reasonable assurance of achieving their objectives as specified above. Management does not expect, however, that our disclosure controls and procedures or our internal control over financial reporting will prevent or detect all error and fraud. Any control system, no matter how well designed and operated, is based upon certain assumptions and can provide only reasonable, not absolute, assurance that its objectives will be met. Further, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud, if any, within the Company have been detected.

Item 9B. Other Information.

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 2020 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 2020 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 2020 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 2020 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 2020 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 Report*:

(1) Report of Independent Registered Public Accounting Firm

Consolidated Balance Sheets as of December 31, 2019 and 2018

Consolidated Statements of Operations for the Years Ended December 31, 2019, 2018 and 2017

Consolidated Statements of Equity for the Years Ended December 31, 2019, 2018 and 2017

Consolidated Statements of Cash Flows for the Years Ended December 31, 2019, 2018 and 2017

Notes to Consolidated Financial Statements

(2) Selected Quarterly Financial Data (Unaudited)

(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)
3.1	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 February 14, 2017)
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)
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 Common Stock

†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 oblige (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 oblige (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

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
*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
*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
*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
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)
*†10.49	Indemnification Agreement (Trent Kososki)
*†10.50	Indemnification Agreement (C. Lynch Christian, III)
†10.51	Form of Restricted Stock Agreement (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 July 5, 2017)
†10.52	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)

†10.53	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)
†10.54	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)
†10.55	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)
10.56	Credit and Security Agreement, dated November 2, 2018, by and among: (i) 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 10.1 of the Company's Current Report on Form 8-K (File No. 001-38003) filed with the Commission on November 2, 2018)
*10.57	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
*21.1	Subsidiaries of Ramaco Resources, Inc.
*23.1	Consent of Briggs & Veselka Co.
*23.2	Consent of Weir International, Inc.
*23.3	Consent of True Line, Inc.
*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
*101	Interactive Data File (Form 10-K for the year ended December 31, 2019 filed in XBRL). The financial information contained in the XBRL-related documents is "unaudited" and "unreviewed."

* Exhibit filed herewith.
† Management contract or compensatory plan or agreement.

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.

February 20, 2020 By: /s/ Michael D. Bauersachs
Michael D. Bauersachs
President and 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.

February 20, 2020 By: /s/ Randall W. Atkins
Randall W. Atkins
Executive Chairman and Director

February 20, 2020 By: /s/ Michael D. Bauersachs
Michael D. Bauersachs
President and Chief Executive Officer and Director
(Principal Executive Officer)

February 20, 2020 By: /s/ Jeremy R. Sussman
Jeremy R. Sussman
Chief Financial Officer
(Principal Financial Officer)

February 20, 2020 By: /s/ John C. Marcum
John C. Marcum
Chief Accounting Officer
(Principal Accounting Officer)

February 20, 2020 By: /s/ Bryan H. Lawrence
Bryan H. Lawrence
Director

February 20, 2020 By: /s/ Richard M. Whiting
Richard M. Whiting
Director

February 20, 2020 By: /s/ Patrick C. Graney, III
Patrick C. Graney, III
Director

February 20, 2020 By: /s/ Tyler Reeder
Tyler Reeder
Director

February 20, 2020	By: /s/ Trent Kososki Trent Kososki Director
February 20, 2020	By: /s/ Bruce E. Cryder Bruce E. Cryder Director
February 20, 2020	By: /s/ C. Lynch Christian III C. Lynch Christian III Director
February 20, 2020	By: /s/ Peter Leidel Peter Leidel Director

DESCRIPTION OF THE REGISTRANT'S SECURITIES REGISTERED PURSUANT TO SECTION 12 OF THE SECURITIES EXCHANGE ACT OF 1934

Ramaco Resources, Inc. (the "Company" or "Ramaco") has one class of securities registered under Section 12 of the Securities Exchange Act of 1934, as amended: common stock, par value $0.01 per share (the "common stock"). The following contains a description of our Common Stock, as well as certain related additional information. This description is a summary only and does not purport to be complete and is subject to and qualified by reference to the provisions of applicable law, the Company's Amended and Restated Certificate of Incorporation, as amended (the "Certificate"), and the Company's Amended and Restated Bylaws (the "Bylaws," and together with the Certificate, the "Charter Documents"), each of which is incorporated by reference as an exhibit to the Company's Annual Report on Form 10-K. For additional information, please read the Company's Charter Documents and the applicable provisions of the Delaware General Corporation Law (the "DGCL"). References to "we," "our" and "us" refer to the Company, unless the context otherwise requires. References to "stockholders" refer to holders of our common stock, unless the context otherwise requires.

General

Pursuant to the Certificate, we are authorized to issue 310,000,000 shares of capital stock, consisting of 260,000,000 shares of common stock and 50,000,000 shares of preferred stock, par value $0.01 per share (the "preferred stock"). There are no issued and outstanding shares of preferred stock.

Common Stock

Voting Rights

Holders of shares of common stock are entitled to one vote per share held of record on all matters to be voted upon by the stockholders. The holders of common stock do not have cumulative voting rights in the election of directors.

Dividend Rights

Holders of shares of our common stock are entitled to ratably receive dividends when and if declared by our board of directors out of funds legally available for that purpose, subject to any statutory or contractual restrictions on the payment of dividends and to any prior rights and preferences that may be applicable to any outstanding preferred stock. Any determination to declare a regular or special dividend, as well as the amount of any dividend that may be declared, will be based on the board of director's consideration of our financial position, earnings, earnings outlook, capital spending plans, outlook on current and future market conditions, alternative stockholder return methods such as share repurchases, and other factors that the board of directors considers relevant at that time.

Liquidation Rights

Upon our liquidation, dissolution, distribution of assets or other winding up, the 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 any of our outstanding shares of preferred stock.

Other Matters

The shares of 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 the common stock. All outstanding shares of our common stock are fully paid and non-assessable.

Listing

Our common stock is traded on the NASDAQ Global Select Market under the symbol "METC."

Anti-Takeover Effects of Provisions of Our Certificate, Bylaws and Delaware Law

Some provisions of Delaware law, and our Charter Documents described below, contain provisions that could make the following transactions more difficult: acquisitions of us by means of a tender offer, a proxy contest or otherwise; or removal of our incumbent officers and directors. These provisions may also have the effect of preventing changes in our management. It is possible that these provisions could make it more difficult to accomplish or could deter transactions that stockholders may otherwise consider to be in their best interest or in our best interests, including transactions that might result in a premium over the market price for our shares.

These provisions, summarized below, are expected to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to encourage persons seeking to acquire control of us to first negotiate with us. We believe that the benefits of increased protection and our potential ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure us outweigh the disadvantages of discouraging these proposals because, among other things, negotiation of these proposals could result in an improvement of their terms.

Delaware Law

We will not be subject to the provisions of Section 203 of the DGCL, regulating corporate takeovers for so long as Yorktown Energy Partners IX, L.P., Yorktown Energy Partners X, L.P and Yorktown Energy Partners XI, L.P. (collectively, "Yorktown") and Energy Capital Partners Mezzanine Opportunities Fund, L.P., Energy Capital Partners Mezzanine Opportunities Fund A, LP and ECP Mezzanine B (Ramaco IP), LP (collectively, "ECP") and their respective affiliates own in the aggregate more than 15% of our outstanding common stock. In general, those provisions prohibit a Delaware corporation, including those whose securities are listed for trading on the NASDAQ, from engaging in any business combination with any interested stockholder for a period of three years following the date that the stockholder became an interested stockholder, unless:

- the transaction is approved by the board of directors before the date the interested stockholder attained that status;
- upon consummation of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced; or
    - on or after such time the business combination is approved by the board of directors and authorized at a meeting of stockholders by at least two-thirds of the outstanding voting stock that is not owned by the interested stockholder.

Amended and Restated Certificate of Incorporation and Bylaws

Provisions of our Charter Documents may delay or discourage transactions involving an actual or potential change in control or change in our management, including transactions in which stockholders might otherwise receive a premium for their shares, or transactions that our stockholders might otherwise deem to be in their best interests. Therefore, these provisions could adversely affect the price of our common stock.

Among other things, the Charter Documents:

- establish advance notice procedures with regard to stockholder proposals relating to the nomination of candidates for election as directors or new business to be brought before meetings of our stockholders. These procedures provide that notice of stockholder proposals must be timely given in writing to our corporate secretary prior to the meeting at which the action is to be taken. Generally, to be timely, notice must be received at our principal executive offices not less than 90 days nor more than 120 days prior to the first anniversary date of the annual meeting for the preceding year.

The Bylaws specify the requirements as to form and content of all stockholders' notices. These requirements may preclude stockholders from bringing matters before the stockholders at an annual or special meeting;

- provide that all vacancies, including newly created directorships, may, except as otherwise required by law or, if applicable, the rights of holders of a series of preferred stock, be filled by the affirmative vote of a majority of directors then in office, even if less than a quorum;
- provide our board of directors the ability to authorize undesignated preferred stock. This ability makes it possible for our board of directors to issue, without stockholder approval, preferred stock with voting or other rights or preferences that could impede the success of any attempt to change control of us. These and other provisions may have the effect of deferring hostile takeovers or delaying changes in control or management of the Company;
- as long as Yorktown and ECP and their respective affiliates own or control the voting of more than 50% of the outstanding shares of our common stock:
    - provide that Yorktown and ECP, collectively, may designate up to seven directors depending on their percent ownership of our common stock;
    - provide that the authorized number of directors may be changed only by the affirmative vote of holders of not less than 50% in voting power of the then-outstanding shares of stock entitled to vote thereon;
    - provide that any action required or permitted to be taken at any annual meeting or special meeting of the stockholders of the Company may be taken by written consent;
    - provide that our Charter Documents may be amended by the affirmative vote of the holders of at least 50% of our then outstanding common stock;
    - provide that special meetings of our stockholders may be called by the board of directors or our secretary at the request of the holders of a majority of our common stock; and
    - provide that we renounce any interest in existing and future investments in other entities by, or the business opportunities of, Yorktown or ECP or any of their officers, directors, agents, stockholders, members, partners, affiliates and subsidiaries (other than our directors that are presented business opportunities in their capacity as our directors) and that they have no obligation to offer us those investments or opportunities; and
    - provide that the Bylaws can be amended only with the approval of a majority of the board of directors and the affirmative vote of holders of not less than 50% in voting power of the then-outstanding shares of stock entitled to vote thereon.
- at any time after Yorktown and ECP and their respective affiliates no longer own or control the voting of more than 50% of the outstanding shares of our common stock:
    - provide that the authorized number of directors may be changed only by resolution of the board of directors;
    - provide that any action required or permitted to be taken by the stockholders must be effected at a duly called annual or special meeting of stockholders and may not be effected by any consent in writing in lieu of a meeting of such stockholders, subject to the rights of the holders of any series of preferred stock with respect to such series;

- provide that our Charter Documents may be amended by the affirmative vote of the holders of at least two-thirds of our then outstanding common stock;
- provide that special meetings of our stockholders may only be called by the board of directors;
- provide, after Yorktown no longer beneficially owns or controls a majority of our outstanding voting interests, for our board of directors to be divided into three classes of directors, with each class as nearly equal in number as possible, serving staggered three-year terms, other than directors which may be elected by holders of preferred stock, if any. This system of electing and removing directors may tend to discourage a third party from making a tender offer or otherwise attempting to obtain control of us, because it generally makes it more difficult for stockholders to replace a majority of the directors;
- provide that we renounce any interest in existing and future investments in other entities by, or the business opportunities of, Yorktown or ECP or any of their officers, directors, agents, stockholders, members, partners, affiliates and subsidiaries (other than our directors that are presented business opportunities in their capacity as our directors) and that they have no obligation to offer us those investments or opportunities; and
- provide that the Bylaws can be amended by the board of directors.

Forum Selection

Our Certificate 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:

- any derivative action or proceeding brought on our behalf;
- 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;
- any action asserting a claim against us or any director or officer or other employee of ours arising pursuant to any provision of the DGCL, our Certificate or our Bylaws; or
- any action asserting a claim against us or any director or officer or other employee of ours 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.

Our Certificate also provides that any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock will be deemed to have notice of, and to have consented to, this forum selection provision. Although we believe these provisions will benefit us by providing increased consistency in the application of Delaware law for the specified types of actions and proceedings, the provisions may have the effect of discouraging lawsuits against our directors, officers, employees and agents. The enforceability of similar exclusive forum provisions in other companies' certificates of incorporation has been challenged in legal proceedings, and it is possible that, in connection with one or more actions or proceedings described above, a court could rule that this provision in our Certificate is inapplicable or unenforceable. This exclusive forum provision does not apply to a cause of action brought under federal or state securities laws.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is American Stock Transfer & Trust Company, LLC.

THIRD AMENDMENT TO LEASE AGREEMENT AND CONSENT TO SUBLEASE

THIS THIRD AMENDMENT TO LEASE AGREEMENT AND CONSENT TO SUBLEASE (the "Second Amendment") is made and entered into on this the 19th day of December, 2017 (the "Effective Date") by and between **BERWIND LAND COMPANY**, a West Virginia corporation, having an address of 300 Summers Street, Suite 1050, Charleston, West Virginia 25301 (the "Lessor") and **RAMACO CENTRAL APPALACHIA, LLC**, a Delaware limited liability company, having an address of 250 West Main Street, Suite 1800, Lexington, Kentucky 40507 (the "Lessee").

WITNESSETH:

WHEREAS, Lessee and Lessor are parties to that certain Lease Agreement dated August 20, 2015, as amended by that certain First Amendment to Lease Agreement and Sublease, executed and delivered on February 12, 2016 (the "First Amendment"), as extended by that certain Extension of First Amendment to Lease Agreement and Sublease, dated June 2, 2016 and by that certain Second Amendment to Lease Agreement and Sublease, dated August 31, 2016 (collectively, the "Lease");

WHEREAS, Lessee and Ramaco Resources, LLC ("Sublessee") are parties to that certain Sublease dated August 20, 2015, as amended by the First Amendment, as extended, and by that certain Second Amendment to Sublease, dated August 31, 2016 (collectively, the "Sublease"), pursuant to which Lessee subleased the coal seams and mining rights leased to Lessee pursuant to the Lease, and Lessee desires to sublease the Additional Property to Sublessee, pursuant to the terms and conditions in the Sublease;

WHEREAS, Lessee, in its opinion, has identified coal reserves in the Pocahontas No. 3, Pocahontas No. 4, and Squire Jim coal seams in various areas contiguous to the boundaries of Demised Coal in the Lease (the "Additional Areas") as hereinafter described;

WHEREAS, Lessee desires to lease the Pocahontas No. 3, Pocahontas No. 4, and Squire Jim coal seams underlying the Additional Areas from Lessor and to mine and develop said coal seams by deep mining methods as described in the Lease;

WHEREAS, Lessor has agreed to execute this Third Amendment to add the Additional Areas to the Lease, and consent to the Sublease upon the terms and conditions set forth therein.

NOW, THEREFORE, for and in consideration of the foregoing, the Lease and other good and valuable consideration, the sufficiency of which is hereby acknowledged, the Lessor and Lessee hereby agree to amend the Lease as follows:

1. Additional Areas. As of the Effective Date, Lessor does hereby lease, demise and let unto Lessee all in the Additional Areas for the uses and purposes set forth, and for the term specified, in the Lease, subject to all exceptions, reservations, terms and conditions set forth in the Lease. The Additional Areas are further described as:

a. The Squire Jim seam of coal contained within the areas shown on the attached map, labeled as Exhibit A-1, and within the boundaries of the tracts in the Tract Listing labeled Exhibit B-1, both exhibits attached hereto and made apart hereof.

b. The Pocahontas No. 3 seam of coal within the areas shown on the attached map, labeled as Exhibit A-2, and within the boundaries of the tracts in the Tract Listing labeled Exhibit B-2, both exhibits attached hereto and made apart hereof.

c. The Pocahontas No. 4 seam of coal within the areas shown on the attached map, labeled as Exhibit A-3, and within the boundaries of the tracts in the Tract Listing labeled Exhibit B-3, both exhibits attached hereto and made apart hereof.

2. Consent to Sublease. Lessor hereby consents to Lessee's sublease of all of Lessee's right, title, and interest in and to the Additional Property to Sublessee pursuant to the terms of the Sublease. Such consent shall not relieve Lessee of any of its obligations under the Lease, and Lessee shall remain liable for the performance of all of the terms, conditions, duties and obligations under the Lease. Furthermore, this consent shall not obviate the need for Lessee to obtain Lessor's consent for any subsequent transaction requiring consent under Section 21 of the Lease.

3. Acknowledgment. The Lessor and Lessee acknowledge that, to the best of their respective knowledge, no event of default exists under the Lease and the Lease remains in full force and effect.

4. Successors and Assigns. This Second Amendment shall inure to the benefit of and be binding upon the parties hereto and their respective successors and assigns.

5. Counterparts. This Second Amendment may be executed in one or more counterparts (including by means of facsimile or e-mail signature pages) and all such counterparts taken together shall constitute one and the same Agreement.

6. Severability. If any provision of this Second Amendment or its application will be invalid, illegal or unenforceable in any respect, the validity, legality and enforceability of all other applications of that provision, and of all other provisions and applications hereof, will not in any way be affected or impaired. If any court shall determine that any provision of this Second Amendment is in any way unenforceable, such provision shall be reduced to whatever extent is necessary to make such provision enforceable.

7. Governing Law. This Second Amendment shall be governed by and construed in accordance with the laws of the State of West Virginia, without regard to or application of its conflict of laws principles.

8. Headings. Section headings are solely for convenience of reference, and shall not affect the meaning or interpretation of this Second Amendment or any provision in it.

[Signatures on Following Pages]

IN WITNESS WHEREOF, Lessor and Lessee have set their hands on this the day and year first above written.

LESSOR:

BERWIND LAND COMPANY

/s/ Randy D. Wright

Randy D. Wright

Its: President

LESSEE:

RAMACO CENTRAL APPALACHIA, LLC

/s/ Michael D. Bauersachs

Michael D. Bauersachs

Its: Authorized Agent

AMENDMENT NO. 4 TO LEASE
[Elk Creek Owned]

THIS AMENDMENT NO. 4 TO LEASE (the "Amendment"), is made and entered into this 12th day of January, 2017, by and between **RAMACO CENTRAL APPALACHIA, LLC**, a Delaware limited liability company ("Lessor"), and **RAMACO RESOURCES, LLC**, a Delaware limited liability company ("Lessee").

Recitals

WHEREAS, Lessor and Lessee entered into that certain Lease dated August 20, 2015 (the "Initial Lease"), as amended by that certain Amendment No. 1 to Lease, effective December 31, 2015 (the "First Amendment"), which First Amendment was superseded in its entirety by that certain Amendment No. 2 to Lease, effective March 31, 2016 (the "Second Amendment"), and as further amended by that certain Amendment No. 3 to Lease, effective August 31, 2016 (the "Third Amendment" and as so amended, collectively, the "Lease");

WHEREAS, Lessor and Lessee were once affiliated companies with substantial common ownership;

WHEREAS, Lessee's parent sought additional investments and to induce such investment, which would inure to Lessor's benefit as lessor through Lessee's procurement of additional equity financing in order to develop the property leased pursuant to the Lease and generate royalties payable to Lessor, Lessor agreed to enter into the Third Amendment, so that certain payments to Lessor would be suspended until obligations to Lessee's parent's new investors were fulfilled; and

WHEREAS, Lessee's parent contemplates entering into a transaction pursuant to which the Lessee's ultimate parent will become publicly traded and the obligations giving rise to the Third Amendment will be satisfied, and Lessee will receive additional equity financing to further its development of the property leased pursuant to the Lease; and

WHEREAS, to implement those certain prior understandings that induced an investment in Lessee and its affiliates by Lessee's ultimate parent, and that induced the concessions that Lessor's parent agreed to in executing the Third Amendment, Lessor and Lessee desire to modify certain terms of the Lease pursuant to this Amendment to return the economic terms of the Lease substantially to the *status quo ante* existing upon the execution of the Third Amendment.

Agreement

NOW, THEREFORE, in consideration of One Dollar cash-in-hand paid, the foregoing recitals which are not mere recitals, the mutual agreements of the parties, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree to the following:

1. Section 1 of the Third Amendment is deleted in its entirety and replaced with the following:

Notwithstanding anything contained in the Lease to the contrary, from and after the date hereof, Lessee shall timely pay directly to the applicable third party, rather than to Lessor, (a) those amounts required to be paid pursuant to Section 5(A) (TAXES) of the Lease; and (b) although previously required to be paid by Lessor under Section 4(B) of the Lease, the Annual Payments and Overriding Royalty payable to Baisden-Vaughan, Inc. pursuant to that certain Special Warranty Deed, dated September 11, 2013, between Baisden-Vaughan, Inc., as Grantor, and Lessor, as Grantee (the "Baisden Deed", and the property conveyed by such Baisden Deed being referred to herein as the "Baisden Property"), subject however to the rights of Lessee under Section 2 of the Third Amendment, and (c) those amounts required to be paid pursuant to the last paragraph of Section 2 (RESERVATIONS AND EXCEPTIONS) of the Lease.

For avoidance of doubt, Section 2 of the Third Amendment remains in full force and effect.

2. The Initial Term under Section 3 (TERM) of the Initial Lease is amended to continue for twelve (12) years from the Effective Date of the Initial Lease. The last two sentences of Section 3 of the Third Amendment are hereby deleted and void ab initio. Except as amended by the first sentence of this paragraph, Section 3 (TERM) of the Lease remains in full force and effect in accordance with its terms.

3. Notwithstanding anything contained in the Lease to the contrary, effective upon the closing of any public or private offering of equity securities of the now existing or hereafter formed ultimate parent of Lessee, or any other Exit Transaction as defined in Section 6.2 of that certain Second Amended and Restated Limited Liability Company Agreement of Lessee's current parent, Ramaco Development, LLC (the "Trigger Date"), the Second Amendment shall be superseded in its entirety, Section 4 of the Third Amendment shall be deleted in its entirety, and Section 4(A) of the Initial Lease shall be replaced with the following:

> A. MINIMUM MONTHLY ROYALTY. Lessee shall pay to Lessor minimum monthly royalty in the amount of Forty-One Thousand Six Hundred Sixty-Seven Dollars and 00/100 Dollars ($41,667.00) (the "Initial Minimum Monthly Royalty Payment"), until Lessee shall have paid twenty-four (24) Initial Minimum Monthly Royalty Payments. Thereafter, the minimum monthly royalty shall increase to, and thereafter be, One Hundred Sixty-Six Thousand Six Hundred Sixty-Seven and 00/100 Dollars ($166,667.00) per month. Minimum monthly royalty shall be paid in arrears on or before the twentieth (20th) day of each calendar month for the preceding calendar month, with the first Initial Minimum Monthly Royalty Payment (the "Initial Minimum Monthly Royalty Payment Date") being due on or before on or before the twentieth (20th) day of the calendar month following the month in which the Trigger Date occurs.
>
> In the event Lessee pays tonnage royalty for coal mined in such calendar month sufficient to equal the minimum monthly royalty, no minimum monthly royalty shall be due with respect to such month. If Lessee does not mine sufficient coal during such calendar month to pay tonnage royalty equal to the minimum monthly royalty, then Lessee shall pay the difference between the minimum monthly royalty for such month and the tonnage royalty, if any, paid for coal mined during such month. Minimum monthly royalty payments in excess of tonnage royalty in any calendar month shall be fully recoupable by Lessee by crediting the same against tonnage royalty payments thereafter due to Lessor, if any, until fully recouped by Lessee. Lessor shall not be required to refund any unrecouped minimum monthly royalty paid by Lessee and not recouped from tonnage royalty pursuant hereto. Only minimum monthly royalty actually paid shall be subject to recoupment under the terms of the Lease. No minimum monthly royalty shall be payable to Lessor until the Initial Minimum Monthly Royalty Payment Date.

4. Capitalized terms not defined herein shall have the meaning ascribed thereto in the Lease. Except as expressly modified herein, all other terms and conditions of the Lease shall

continue to remain in full force and effect. To the extent of any conflicts between the language of the Lease and the language of this Amendment, the language of this Amendment shall control.

[The remainder of this page is intentionally left blank]

IN WITNESS WHEREOF, the Lessor acknowledges its agreement to the foregoing Amendment by causing its duly authorized representative to sign below.

LESSOR:

RAMACO CENTRAL APPALACHIA, LLC,
a Delaware limited liability company

By: /s/ Randall W. Atkins
Name: Randall W. Atkins
Its:Authorized Agent

Amendment No. 4 to Lease
Signature Page of Lessor

IN WITNESS WHEREOF, the Lessee acknowledges its agreement to the foregoing Amendment by causing its duly authorized representative to sign below.

LESSEE:

RAMACO RESOURCES, LLC,
a Delaware limited liability company

By: /s/ Michael D. Bauersachs
Name: Michael D. Bauersachs
Its: Authorized Agent

Amendment No. 4 to Lease
Signature Page of Lessee

AMENDMENT NO. 5 TO LEASE
[Elk Creek Owned]

THIS AMENDMENT NO. 5 TO LEASE (the "Amendment"), is made and entered into this 28th day of September, 2018, by and between **RAMACO CENTRAL APPALACHIA, LLC**, a Delaware limited liability company ("Lessor"), and **RAMACO RESOURCES, LLC**, a Delaware limited liability company ("Lessee").

Recitals

WHEREAS, Lessor and Lessee entered into that certain Lease dated August 20, 2015 (the "Initial Lease"), as amended by that certain Amendment No. 1 to Lease, effective December 31, 2015 (the "First Amendment"), which First Amendment was superseded in its entirety by that certain Amendment No. 2 to Lease, effective March 31, 2016 (the "Second Amendment"), as amended by that certain Amendment No. 3 to Lease, effective August 31, 2016 (the "Third Amendment"), and as further amended by that certain Amendment No. 4 to Lease, effective January 12, 2017, (the "Fourth Amendment", and as so amended, collectively, the "Lease");

WHEREAS, Lessor and Lessee were once affiliated companies with substantial common ownership;

WHEREAS, Lessor and Lessee now have different ownership structures and Lessee's ultimate parent company is now publicly traded, and therefore, Lessor and Lessee desire to modify certain terms of the Lease pursuant to this Amendment to modify the recoupment provisions and certain other obligations for efficiency in administration.

NOW, THEREFORE, in consideration of One Dollar cash-in-hand paid, the foregoing recitals which are not mere recitals, the mutual agreements of the parties, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree to the following:

1. Section 1 (b) of the Fourth Amendment is hereby amended as follows:

Lessor shall reimburse to Lessee, without interest, all Annual Payments paid by Lessee, as defined in that certain Special Warranty Deed, by and between Baisden-Vaughan, Inc., and Lessor, dated September 11, 2013, and recorded in the office of the Clerk of the Logan County Commission at Deed Book 614, page 190. To affect such reimbursement, Lessee shall offset all Annual Payments, as stated in Schedule 1 attached hereto and made a part hereof, that Lessee has previously paid subsequent to the execution of the Third Amendment against the October Deferral Fee, as defined in that certain letter agreement, dated August 3, 2018, by and between Lessor and Lessee (the "Deferral Agreement"), attached hereto as Exhibit A and made a part hereof.

2. Capitalized terms not defined herein shall have the meaning ascribed thereto in the Lease. Except as expressly modified herein, all other terms and conditions of the Lease shall continue to remain in full force and effect. To the extent of any conflicts between the language of the Lease and the language of this Amendment, the language of this Amendment shall control.

3. This Amendment may be executed in one or more counterparts (including by means of facsimile or e-mail signature pages) and all such counterparts taken together shall constitute one and the same agreement.

[The remainder of this page is intentionally left blank]

IN WITNESS WHEREOF, the Lessor acknowledges its agreement to the foregoing Amendment by causing its duly authorized representative to sign below.

LESSOR:

RAMACO CENTRAL APPALACHIA, LLC,
a Delaware limited liability company

By: /s/ Randall W. Atkins
Name: Randall W. Atkins
Its:Authorized Agent

Amendment No. 5 to Lease
Signature Page of Lessor

IN WITNESS WHEREOF, the Lessee acknowledges its agreement to the foregoing Amendment by causing its duly authorized representative to sign below.

LESSEE:

RAMACO RESOURCES, LLC,
a Delaware limited liability company

By: /s/ Michael D. Bauersachs
Name: Michael D. Bauersachs
Its:Authorized Agent

AMENDMENT NO. 6
TO LEASE

[Elk Creek Owned]

THIS AMENDMENT NO. 6 TO LEASE (the "Amendment"), effective December 21, 2018 (the "Amendment Date"), is by and between **RAMACO CENTRAL APPALACHIA, LLC**, a Delaware limited liability company ("Lessor"), and **RAMACO RESOURCES, LLC**, a Delaware limited liability company ("Lessee").

Recitals

WHEREAS, Lessor and Lessee entered into that certain Lease dated as of August 20, 2015, as amended by that certain Amendment No. 1 to Lease, effective December 31, 2015 (the "First Amendment"), which First Amendment was superseded in its entirety by that certain Amendment No. 2 to Lease, effective March 31, 2016, as amended by that certain Amendment No. 3 to Lease, effective August 31, 2016, that certain Amendment No. 4 to Lease, effective January 12, 2017, and as further amended by that certain Amendment No. 5 to Lease, dated September 28, 2018 (as so amended, the "Lease"), which Lease is of record in the Office of the Clerk of the County Commission of Logan County, West Virginia, in Coal Lease Book 648, page 808;

WHEREAS, by that certain Special Warranty Deed, dated December 21, 2018, from The Bruce McDonald Holding Company, et. al. (the "McDonald Deed"), of record in the Office of the Clerk of the County Commission of Logan County, West Virginia in Deed Book 648, page 794, Lessor acquired the Alma seam of coal in, on or under that certain tract of real property containing approximately 11.3 acres, more or less, and more particularly described in the McDonald Deed (the "Additional Property"); and

WHEREAS, Lessor and Lessee desire to add the Additional Property to the Lease under the terms set forth in this Amendment.

Agreement

NOW, THEREFORE, in consideration of the mutual agreements between the parties, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree to the following:

1. Lease. Lessor hereby demises, lease, and lets to Lessee the Alma seam of coal in, on or underlying the Additional Property, together with the right to mine the same using the methods, and with all of the rights and obligations set forth in the Lease with respect to such coal, and such coal shall hereafter be deemed to be included as Leased Coal.

2. One-Time Minimum Royalty. In connection with this Amendment, Lessee shall pay a one-time minimum royalty, in arrears, in the amount of Fifty Thousand Dollars ($50,000.00), on or before July 20, 2019. In the event Lessee pays tonnage royalty (as required under the Lease) on coal mined from the Additional Property and sold through June 30, 2019, sufficient to equal the one-time minimum royalty, no such one-time minimum royalty payment shall be required. If Lessee does not mine sufficient coal from the Additional Property during such period to pay tonnage royalty equal to the one-time minimum royalty, then Lessee shall pay the difference between the one-time minimum royalty and the tonnage royalty, if any, paid for coal mined and sold from the Amendment Date through June 30, 2019. The amount of one-time minimum royalty actually paid shall be fully recoupable by Lessee by crediting the same against tonnage royalty payments thereafter due to Lessor with respect to coal mined from the Additional Property only, until fully recouped by Lessee. Lessee shall not be entitled to recoup tonnage royalty paid with

respect to coal mined from the Additional Property and sold against minimum monthly royalty payments due under Section 4(A) of the Lease.

3. No Other Modifications. Except as expressly amended by this Amendment, all other terms and conditions of the Lease shall continue to remain in full force and effect.

4. Conflicting Language. To the extent that any language contained in the Lease conflicts with any language contained in this Amendment, the language contained in this Amendment shall control.

IN WITNESS WHEREOF, the parties acknowledge their agreement to the foregoing Amendment by causing their duly authorized representatives to sign below:

LESSOR:

RAMACO CENTRAL APPALACHIA, LLC,
a Delaware limited liability company

By: /s/ Randall W. Atkins
Name: Randall W. Atkins
Its: Authorized Agent

LESSEE:

RAMACO RESOURCES, LLC,
a Delaware limited liability company

By: /s/ Michael D. Bauersachs
Name: Michael D. Bauersachs
Its: Authorized Agent

AMENDMENT NO. 7 TO LEASE

[Elk Creek Owned]

THIS AMENDMENT NO. 7 TO LEASE (the "Amendment"), is effective as of of February 1, 2019 (the "Amendment Date"), by and between **RAMACO CENTRAL APPALACHIA, LLC**, a Delaware limited liability company ("Lessor"), and **RAMACO RESOURCES, LLC**, a Delaware limited liability company ("Lessee").

Recitals

WHEREAS, Lessor and Lessee entered into that certain Lease dated August 20, 2015 (the "Initial Lease"), as amended by that certain Amendment No. 1 to Lease, effective December 31, 2015 (the "First Amendment"), which First Amendment was superseded in its entirety by that certain Amendment No. 2 to Lease, effective March 31, 2016 (the "Second Amendment"), as amended by that certain Amendment No. 3 to Lease, effective August 31, 2016 (the "Third Amendment"), as amended by that certain Amendment No. 4 to Lease, effective January 12, 2017, (the "Fourth Amendment"), as amended by that certain Amendment No. 5 to Lease, dated September 28, 2018 (the "Fifth Amendment"), and as further amended by Amendment No. 6 to Lease, effective December 21, 2018 (the "Sixth Amendment", and as so amended by each of the foregoing First through Sixth Amendments, collectively, the "Lease");

WHEREAS, by Special Warranty Deed, effective January 18, 2019, Big Huff Minerals LLC conveyed to Lessor the coal underlying those certain tracts located on Big Cub Creek, Clear Fork District, Wyoming County, West Virginia, more particularly described on Exhibit A attached hereto and incorporated herein by reference, and depicted on the map attached hereto as Exhibit

B, bearing the legend: "Map Showing Boundary of 65.17 Acres of Coal Conveyed by Big Huff Minerals LLC to Ramaco Central Appalachia, LLC" (collectively, the "Big Huff Property");

WHEREAS, Lessor and Lessee desire to amend the Lease to add the Big Huff Property to the Lease, upon the terms and conditions set forth herein.

Agreement

NOW, THEREFORE, in consideration of One Dollar cash-in-hand paid, the foregoing recitals which are not mere recitals, the mutual agreements of the parties, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree to the following:

1. Lessor hereby demises, leases, and lets to Lessee, the coal contained in the Big Huff Property, together with the right to remove the same by any and all mining methods, now existing or hereafter developed (including, without limitation, surface, deep and highwall mining), and the right to use all of the surface and mining rights vested in Lessor for the purpose of mining, removing, transporting, processing, marketing and selling the Leased Coal and coal mined from other properties leased or subleased to Lessee by Lessor; subject, however, to the limitations and conditions set forth in the Lease and in this Amendment. The coal leased hereby shall be included as "Leased Coal" under the Lease and the Big Huff Property shall be included as "Leased Premises" under the Lease, and Lessee shall have the same rights, duties, obligations, limitations, conditions and restrictions with respect to the Big Huff Property as are applicable to the Leased Coal and Leased Premises under the Lease except as expressly set forth herein.

2. Notwithstanding anything contained in the Lease to the contrary, the term of the Lease with respect to the Big Huff Property only shall be five (5) years from the Amendment Date; which term shall be automatically extended for up to three (3) additional terms of five (5) years

each unless Lessee provides one hundred eighty (180) days prior written notice of its intent not to extend such then current term.

3. In lieu of Minimum Monthly Royalty Payments under Section 4(A) of the Lease, with respect to the Big Huff Property only, Lessee shall pay to Lessor a one-time minimum royalty in the amount of Fifty Thousand Dollars ($50,000.00) (the "Big Huff Minimum Royalty") on or before October 15, 2019. Big Huff Minimum Royalty shall be recoupable from tonnage royalty payable with respect to the Big Huff Property only, and not from any other tonnage royalty under the Lease, in accordance with Section 4(A) of the Lease. Similarly, tonnage royalty on production of Leased Coal other than from the Big Huff Property under the Lease shall not be applied to reduce the Big Huff Minimum Royalty.

4. Capitalized terms not defined herein shall have the meaning ascribed thereto in the Lease. Except as expressly modified herein, all other terms and conditions of the Lease shall continue to remain in full force and effect. To the extent of any conflicts between the language of the Lease and the language of this Amendment, the language of this Amendment shall control.

[The remainder of this page is intentionally left blank]

IN WITNESS WHEREOF, the Lessor acknowledges its agreement to the foregoing Amendment by causing its duly authorized representative to sign below.

LESSOR:

RAMACO CENTRAL APPALACHIA, LLC,
a Delaware limited liability company

By: /s/ Randall W. Atkins
Name: Randall W. Atkins
Its: Authorized Agent

IN WITNESS WHEREOF, the Lessee acknowledges its agreement to the foregoing Amendment by causing its duly authorized representative to sign below.

LESSEE:

RAMACO RESOURCES, LLC,
a Delaware limited liability company

By: /s/Michael D. Bauersachs
Name: Michael D. Bauersachs
Its: Authorized Agent

INDEMNIFICATION AGREEMENT

This Indemnification Agreement ("Agreement
")
is dated as of February 18, 2020 and made effective as of November 10, 2019 (the "Effective Date"), by and between Ramaco Resources, Inc., a Delaware corporation (the "Corporation"), and Peter Leidel ("Indemnitee").

RECITALS:

WHEREAS, directors, officers and other persons in service to corporations or business enterprises are subjected to expensive and time-consuming litigation relating to, among other things, matters that traditionally would have been brought only against the Corporation or business enterprise itself;

WHEREAS, highly competent persons have become more reluctant to serve as directors, officers or in other capacities unless they are provided with adequate protection through insurance and adequate indemnification against inordinate risks of claims and actions against them arising out of their service to and activities on behalf of the corporation;

WHEREAS, the Board of Directors of the Corporation (the "Board") has determined that the increased difficulty in attracting and retaining such persons is detrimental to the best interests of the Corporation and its stockholders and that the Corporation should act to assure such persons that there will be increased certainty of such protection in the future;

WHEREAS, (i) the Amended and Restated Bylaws of the Corporation (as may be amended, the "Bylaws") require indemnification of the officers and directors of the Corporation, (ii) Indemnitee may also be entitled to indemnification pursuant to the General Corporation Law of the State of Delaware ("DGCL") and (iii) the Bylaws and the DGCL expressly provide that the indemnification provisions set forth therein are not exclusive and thereby contemplate that contracts may be entered into between the Corporation and members of the Board, officers and other persons with respect to indemnification;

WHEREAS, this Agreement is a supplement to and in furtherance of the Bylaws and the Amended and Restated Certificate of Incorporation of the Corporation (as may be amended, the "Certificate of Incorporation") and any resolutions adopted pursuant thereto, and shall not be deemed a substitute therefore, nor to diminish or abrogate any rights of Indemnitee thereunder;

WHEREAS, (i) Indemnitee does not regard the protection available under the Bylaws and insurance as adequate in the present circumstances, (ii) Indemnitee may not be willing to serve or continue to serve as a director or officer of the Corporation without adequate protection, (iii) the Corporation desires Indemnitee to serve in such capacity, and (iv) Indemnitee is willing to serve, continue to serve and to take on additional service for or on behalf of the Corporation on the condition that he be so indemnified for the entire period that Indemnitee has served and continues to serve as a director or officer of the Corporation; and

WHEREAS, Indemnitee began serving as a director on the Board on the Effective Date.

AGREEMENT:

NOW, THEREFORE, in consideration of the premises and the covenants contained herein, the Corporation and Indemnitee do hereby covenant and agree as follows:

Section 1 As used in this Agreement:

"Affiliate" of any specified Person shall mean any other Person controlling, controlled by or under common control with such specified Person.

"Corporate Status" describes the status of a person who is or was a director, officer, employee or agent of (i) the Corporation or (ii) any other corporation, limited liability company, partnership or joint venture, trust, employee benefit plan or other enterprise which such person is or was serving at the request of the Corporation.

"Disinterested Director" shall mean a director of the Corporation who is not and was not a party to the Proceeding in respect of which indemnification is sought by Indemnitee.

"Enterprise" shall mean the Corporation and any other corporation, limited liability company, partnership, joint venture, trust, employee benefit plan or other enterprise of which Indemnitee is or was serving at the request of the Corporation as a director, officer, employee, agent or fiduciary.

"Exchange Act" shall mean the Securities Exchange Act of 1934, as amended.

"Expenses" shall mean all reasonable costs, expenses, fees and charges, including, without limitation, attorneys' fees, document and e-discovery costs, litigation expenses, retainers, court costs, transcript costs, fees of experts, witness fees, travel expenses, duplicating costs, printing and binding costs, telephone charges, postage, delivery service fees, and all other disbursements or expenses of the types customarily incurred in connection with prosecuting, defending, preparing to prosecute or defend, investigating, being or preparing to be a witness in, or otherwise participating in, a Proceeding. Expenses also shall include, without limitation, (i) expenses incurred in connection with any appeal resulting from, incurred by Indemnitee in connection with, arising out of, or in respect of or relating to, any Proceeding, including, without limitation, the premium, security for, and other costs relating to any cost bond, supersedes bond, or other appeal bond or its equivalent, (ii) for purposes of Section 12(d) hereof only, expenses incurred by Indemnitee in connection with the interpretation, enforcement or defense of Indemnitee's rights under this Agreement, by litigation or otherwise, (iii) any federal, state, local or foreign taxes imposed on Indemnitee as a result of the actual or deemed receipt of any payments under this Agreement, and (iv) any interest, assessments or other charges in respect of the foregoing. "Expenses" shall not include "Liabilities."

"Indemnity Obligations" shall mean all obligations of the Corporation to Indemnitee under this Agreement, including the Corporation's obligations to provide indemnification to Indemnitee and advance Expenses to Indemnitee under this Agreement.

"Independent Counsel" shall mean a law firm of fifty (50) or more attorneys, or a member of a law firm of fifty (50) or more attorneys, that is experienced in matters of corporation law and neither presently is, nor in the past five (5) years has been, retained to represent: (i) the Corporation or Indemnitee in any matter material to either such party (other than with respect to matters concerning Indemnitee under this Agreement, or of other indemnitees under similar indemnification agreements), or (ii) any other party to the Proceeding giving rise to a claim for indemnification hereunder; provided, however, that the term "Independent Counsel" shall not include any person who, under the applicable standards of professional conduct then prevailing, would have a conflict of interest in representing either the Corporation or Indemnitee in an action to determine Indemnitee's rights under this Agreement.

"Liabilities" shall mean all claims, liabilities, damages, losses, judgments, orders, fines, penalties and other amounts payable in connection with, arising out of, or in respect of or relating to any Proceeding, including, without limitation, amounts paid in settlement in any Proceeding and all costs and expenses in complying with any judgment, order or decree issued or entered in connection with any Proceeding or any settlement agreement, stipulation or consent decree entered into or issued in settlement of any Proceeding.

"Person" shall mean any individual, corporation, partnership, limited partnership, limited liability company, trust, governmental agency or body or any other legal entity.

"Proceeding" shall mean any threatened, pending or completed action, claim, suit, arbitration, alternate dispute resolution mechanism, formal or informal hearing, inquiry or investigation, litigation, inquiry, administrative hearing or any other actual, threatened or completed judicial, administrative or arbitration proceeding (including, without limitation, any such proceeding under the Securities Act of 1933, as amended, or the Exchange Act or any other federal law, state law, statute or regulation), whether brought in the right of the Corporation or otherwise, and whether of a civil, criminal, administrative or investigative nature, in each case, in which Indemnitee was, is or will be, or is threatened to be, involved as a party, witness or otherwise by reason of the fact that Indemnitee is or was a director or officer of the Corporation, by reason of any actual or alleged action taken by Indemnitee or of any action on Indemnitee's part while acting as director or officer of the Corporation, or by reason of the fact that he is or was serving at the request of the Corporation as a director, officer, employee or agent of another corporation, limited liability company, partnership, joint venture, trust or other enterprise, in each case whether or not serving in such capacity at the time any liability or expense is incurred for which indemnification, reimbursement, or advancement can be provided under this Agreement

(a) For the purpose hereof, references to "fines" shall include any excise tax assessed with respect to any employee benefit plan; references to "serving at the request of the Corporation" shall include any service as a director, officer, employee or agent of the Corporation which imposes duties on, or involves services by, such director, officer, employee or agent with respect to an employee benefit plan, its participants or beneficiaries; and a Person who acted in good faith and in a manner he reasonably believed to be in the best interests of the participants and beneficiaries of an employee benefit plan shall be deemed to have acted in a manner "not opposed to the best interests of the Corporation" as referred to in this Agreement.

Section 2 Indemnity in Third-Party Proceedings. The Corporation shall indemnify and hold harmless Indemnitee, to the fullest extent permitted by applicable law, from and against all Liabilities and Expenses suffered or reasonably incurred (and, in the case of retainers, reasonably expected to be incurred) by Indemnitee or on Indemnitee's behalf in connection with any Proceeding (other than any Proceeding brought by or in the right of the Corporation to procure a judgment in its favor), or any claim, issue or matter therein.

Section 3 Indemnity in Proceedings by or in the Right of the Corporation. The Corporation shall indemnify and hold harmless Indemnitee, to the fullest extent permitted by applicable law, from and against all Liabilities and Expenses suffered or incurred by Indemnitee or on Indemnitee's behalf in connection with any Proceeding brought by or in the right of the Corporation to procure a judgment in its favor, or any claim, issue or matter therein. No indemnification for Liabilities and Expenses shall be made under this Section 3 in respect of any claim, issue or matter as to which Indemnitee shall have been finally adjudged by a court to be liable to the Corporation, unless and only to the extent that the Delaware Court of Chancery or any court in which the Proceeding was brought shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, Indemnitee is fairly and reasonably entitled to such indemnification.

Section 4 Indemnification for Expenses of a Party Who is Wholly or Partly Successful. Notwithstanding any other provisions of this Agreement, and without limiting the rights of Indemnitee under any other provision hereof, including any rights to indemnification pursuant to Sections 2 or 3 hereof, to the fullest extent permitted by applicable law, to the extent that Indemnitee is successful, on the merits or otherwise, in any Proceeding or in defense of any claim, issue or matter therein, in whole or in part, the Corporation shall indemnify Indemnitee against all Expenses actually and reasonably incurred by Indemnitee or on Indemnitee's behalf in connection with each successfully resolved Proceeding, claim, issue or matter. For purposes of this Section 4 and without limitation, the termination of any Proceeding or claim, issue or matter in such a Proceeding by dismissal, with or without prejudice, shall be deemed to be a successful result as to such claim, issue or matter.

Section 5 Indemnification For Expenses of a Witness. Notwithstanding any other provision of this Agreement, to the fullest extent permitted by applicable law and to the extent that Indemnitee is, by reason of Indemnitee's Corporate Status, a witness, or is made (or asked) to respond to discovery requests or a subpoena or similar demand for documents or testimony, in any Proceeding to which Indemnitee is not a party, Indemnitee shall be indemnified against all Expenses suffered or incurred (or, in the case of retainers, reasonably expected to be incurred) by Indemnitee or on Indemnitee's behalf in connection therewith.

Section 6 Additional Indemnification. Notwithstanding any limitation in Sections 2, 3 or 4 hereof, the Corporation shall indemnify Indemnitee to the fullest extent permitted by applicable law if Indemnitee is a party to or threatened to be made a party to any Proceeding (including a Proceeding by or in the right of the Corporation to procure a judgment in its favor) against all Liabilities and Expenses suffered or reasonably incurred by Indemnitee in connection with such Proceeding, including but not limited to:

(a) the fullest extent permitted by the provision of the DGCL that authorizes or contemplates additional indemnification by agreement, or the corresponding provision of any amendment to or replacement of the DGCL; and

(b) the fullest extent authorized or permitted by any amendments to or replacements of the DGCL adopted after the date of this Agreement that increase the extent to which a corporation may indemnify its officers and directors.

Section 7 Exclusions. Notwithstanding any provision in this Agreement, the Corporation shall not be obligated under this Agreement to indemnify or hold harmless Indemnitee:

(a) for which payment has actually been made to or on behalf of Indemnitee under any insurance policy obtained by the Corporation except with respect to any excess beyond the amount paid under such insurance policy;

(b) for an accounting of profits made from the purchase and sale (or sale and purchase) by Indemnitee of securities of the Corporation within the meaning of Section 16(b) of the Exchange Act or similar provisions of state statutory law or common law;

(c) for any reimbursement of the Corporation by Indemnitee of any bonus or other incentive-based or equity-based compensation or of any profits realized by Indemnitee from the sale of securities of the Corporation, as required in each case under the Exchange Act (including any such reimbursements that arise from an accounting restatement of the Corporation pursuant to Section 304 of the Sarbanes-Oxley Act of 2002 (the "***Sarbanes-Oxley Act***"), or the payment to the Corporation of profits arising from the purchase and sale by Indemnitee of securities in violation of Section 306 of the Sarbanes-Oxley Act), if Indemnitee is held liable therefor (including pursuant to any settlement arrangements) or in respect of claw-back provisions promulgated under the rules and regulations of the Securities and Exchange Commission pursuant to the Dodd-Frank Wall Street Reform and Consumer Protection Act; or

(d) except as provided in Section 12(d) of this Agreement, in connection with any Proceeding (or any part of any Proceeding) initiated by Indemnitee, including any Proceeding (or any part of any Proceeding) initiated by Indemnitee against the Corporation or its directors, officers, employees or other indemnitees, unless (i) the Board authorized the Proceeding (or any part of any Proceeding) prior to its initiation or (ii) the Corporation provides the indemnification, in its sole discretion, pursuant to the powers vested in the Corporation under applicable law; or

(e) if a final decision by a court having jurisdiction in the matter shall determine that such indemnification is not lawful.

Section 8 Advancement. In accordance with the pre-existing requirements of the Bylaws, and notwithstanding any provision of this Agreement to the contrary, the Corporation shall advance, to the extent not prohibited by applicable law, the Expenses reasonably incurred by Indemnitee in connection with any Proceeding, and such advancement shall be made within ten (10) days after the receipt by the Corporation of a statement or statements requesting such advances from time to time, whether prior to or after final disposition of any Proceeding. Advances shall be unsecured and interest free. Advances shall be made without regard to Indemnitee's ability to repay the Expenses and without regard to Indemnitee's ultimate entitlement to indemnification under the other provisions of this Agreement. Advances shall include any and all Expenses reasonably incurred pursuing an action to enforce this right of advancement, including Expenses incurred preparing and forwarding statements to the Corporation to support the advances claimed. Indemnitee shall qualify for advances upon the execution and delivery to the Corporation of this Agreement, which shall constitute an undertaking providing that Indemnitee undertakes to repay the amounts advanced to the extent that it is ultimately determined that Indemnitee is not entitled to be indemnified by the Corporation. This Section 8 shall not apply to any claim made by Indemnitee for which indemnity is excluded pursuant to Section 7 hereof.

Section 9 Procedure for Notification and Defense of Claim.

(a) Indemnitee shall promptly notify the Corporation in writing of any Proceeding with respect to which Indemnitee intends to seek indemnification or advancement hereunder following the receipt by Indemnitee of written notice thereof. The written notification to the Corporation shall include a description of the nature of the Proceeding and the facts underlying the Proceeding. To obtain indemnification under this Agreement, Indemnitee shall submit to the Corporation a written request, including therein or therewith such documentation and information as is reasonably available to Indemnitee and is reasonably necessary to determine whether and to what extent Indemnitee is entitled to indemnification following the final disposition of such Proceeding. Any delay or failure by Indemnitee to notify the Corporation hereunder will not relieve the Corporation from any liability which it may have to Indemnitee hereunder or otherwise than under this Agreement, and any delay or failure in so notifying the Corporation shall not constitute a waiver by Indemnitee of any rights under this Agreement. The Secretary of the Corporation shall, promptly upon receipt of such a request for indemnification, advise the Board in writing that Indemnitee has requested indemnification.

(b) In the event Indemnitee is entitled to indemnification and/or advancement with respect to any Proceeding, Indemnitee may, at Indemnitee's option, (i) retain counsel selected by Indemnitee and approved by the Corporation to defend Indemnitee in such Proceeding, at the sole expense of the Corporation (which approval shall not be unreasonably withheld, conditioned or delayed), or (ii) have the Corporation assume the defense of Indemnitee in such Proceeding, in which case the Corporation shall assume the defense of such Proceeding with counsel selected by the Corporation and approved by Indemnitee (which approval shall not be unreasonably withheld, conditioned or delayed) within ten (10) days of the Corporation's receipt of written notice of Indemnitee's election to cause the Corporation to do so. If the Corporation is required to assume the defense of any such Proceeding, it shall engage legal counsel for such defense, and the Corporation shall be solely responsible for all fees and expenses of such legal counsel and otherwise of such defense. Such legal counsel may represent both Indemnitee and the Corporation (and any other party or parties entitled to be indemnified by the Corporation with respect to such matter) unless, in the reasonable opinion of legal counsel to Indemnitee, there is a conflict of interest between Indemnitee and the Corporation (or any other such party or parties) or there are legal defenses available to Indemnitee that are not available to the Corporation (or any such other party or parties). Notwithstanding either party's assumption of responsibility for defense of a Proceeding, each party shall have the right to engage separate counsel at its own expense. The party having responsibility for defense of a Proceeding shall provide the other party and its counsel with all copies of pleadings and material correspondence relating to the Proceeding. Indemnitee and the Corporation shall reasonably cooperate in the defense of any Proceeding with respect to which indemnification is sought hereunder, regardless of whether the Corporation or Indemnitee assumes the defense thereof. Indemnitee may not settle or compromise any Proceeding without the prior written consent of the Corporation, which consent shall not be unreasonably withheld, conditioned or delayed. The Corporation may not settle or compromise any Proceeding without the prior written consent of Indemnitee.

Section 10 Procedure Upon Application for Indemnification.

(a) Upon written request by Indemnitee for indemnification pursuant to Section 9(a) hereof, if any determination by the Corporation is required by applicable law with respect to Indemnitee's entitlement thereto, such determination shall be made (i) if Indemnitee shall request such determination be made by Independent Counsel, by Independent Counsel, and (ii) in all other circumstances, (A) by a majority vote of the Disinterested Directors, even though less than a quorum of the Board, (B) by a committee of Disinterested Directors designated by a majority vote of the Disinterested Directors, even though less than a quorum of the Board, (C) if there are no such Disinterested Directors or, if such Disinterested Directors so direct, by Independent Counsel in a written opinion to the Board, a copy of which shall be delivered to Indemnitee, or (D) if so directed by the Board, by the stockholders of the Corporation; and, if it is so determined that Indemnitee is entitled to indemnification, payment to Indemnitee shall be made within ten (10) days after such determination. Indemnitee shall cooperate with the person, persons or entity making such determination with respect to Indemnitee's entitlement to indemnification, including providing to such person, persons or entity upon reasonable advance request any documentation or information which is not privileged or otherwise protected from disclosure and which is reasonably available to Indemnitee and reasonably necessary to such determination. Any Expenses incurred by Indemnitee in so cooperating with the person, persons or entity making such determination shall be borne by the Corporation (irrespective of the determination as to Indemnitee's entitlement to indemnification) and the Corporation hereby indemnifies and agrees to hold Indemnitee harmless therefrom. The Corporation will not deny any written request for indemnification hereunder made in good faith by Indemnitee unless a determination as to Indemnitee's entitlement to such indemnification described in this Section 10(a) has been made. The Corporation agrees to pay the reasonable fees and expenses of the Independent Counsel referred to above and to fully indemnify such counsel against any and all Liabilities and Expenses arising out of or relating to this Agreement or its engagement pursuant hereto.

(b) In the event the determination of entitlement to indemnification is to be made by Independent Counsel pursuant to Section 10(a) hereof, (i) the Independent Counsel shall be selected by the Corporation within ten (10) days of the Submission Date (the cost of such Independent Counsel to be paid by the Corporation), (ii) the Corporation shall give written notice to Indemnitee advising it of the identity of the Independent Counsel so selected and (iii) Indemnitee may, within ten (10) days after such written notice of selection shall have been given, deliver to the Corporation Indemnitee's written objection to such selection. Such objection by Indemnitee may be asserted only on the ground that the Independent Counsel selected does not meet the requirements of "Independent Counsel" as defined in this Agreement. If such written objection is made and substantiated, the Independent Counsel selected shall not serve as Independent Counsel unless and until Indemnitee withdraws the objection or a court has determined that such

objection is without merit. Absent a timely objection, the person so selected shall act as Independent Counsel. If no Independent Counsel shall have been selected and not objected to before the later of (i) thirty (30) days after the later of submission by Indemnitee of a written request for indemnification pursuant to Section 10(a) hereof (the "Submission Date") and (ii) ten (10) days after the final disposition of the Proceeding, each of the Corporation and Indemnitee shall select a law firm or member of a law firm meeting the qualifications to serve as Independent Counsel, and such law firms or members of law firms shall select the Independent Counsel. Upon the due commencement of any judicial proceeding or arbitration pursuant to Section 12(a) of this Agreement, Independent Counsel shall be discharged and relieved of any further responsibility in such capacity (subject to the applicable standards of professional conduct then prevailing).

Section 11 Presumptions and Effect of Certain Proceedings.

(a) In making a determination with respect to entitlement to indemnification hereunder, the person, persons or entity making such determination shall, to the fullest extent not prohibited by applicable law, presume that Indemnitee is entitled to indemnification under this Agreement if Indemnitee has submitted a request for indemnification in accordance with Section 9(a) of this Agreement, and the Corporation shall, to the fullest extent not prohibited by applicable law, have the burden of proof to overcome that presumption in connection with the making by any person, persons or entity of any determination contrary to that presumption. Neither the failure of the Corporation (including by its directors or independent legal counsel) to have made a determination prior to the commencement of any action pursuant to this Agreement that indemnification is proper in the circumstances because Indemnitee has met the applicable standard of conduct, nor an actual determination by the Corporation (including by its directors or independent legal counsel) that Indemnitee has not met such applicable standard of conduct, shall be a defense to the action or create a presumption that Indemnitee has not met the applicable standard of conduct.

(b) Subject to Section 12(e) hereof, if the person, persons or entity empowered or selected under Section 10 of this Agreement to determine whether Indemnitee is entitled to indemnification shall not have made a determination within sixty (60) days after receipt by the Corporation of the request therefore, the requisite determination of entitlement to indemnification shall, to the fullest extent not prohibited by applicable law, be deemed to have been made and Indemnitee shall be entitled to such indemnification, absent a prohibition of such indemnification under applicable law; provided, however, that such 60-day period may be extended for a reasonable time, not to exceed an additional thirty (30) days, if (i) the determination is to be made by Independent Counsel and Indemnitee objects to the Corporation's selection of Independent Counsel and (ii) the Independent Counsel ultimately selected requires such additional time for the obtaining or evaluating of documentation or information relating thereto; provided further, however, that such 60-day period may also be extended for a reasonable time, not to exceed an additional sixty (60) days, if the determination of entitlement to indemnification is to be made by the stockholders of the Corporation.

(c) The termination of any Proceeding or of any claim, issue or matter therein, by judgment, order, settlement or conviction, or upon a plea of nolo contendere or its equivalent, shall not (except as otherwise expressly provided in this Agreement) adversely affect the right of Indemnitee to indemnification or create a presumption that Indemnitee did not act in good faith and in a manner which he reasonably believed to be in or not opposed to the best interests of the Corporation or, with respect to any criminal Proceeding, that Indemnitee had reasonable cause to believe that Indemnitee's conduct was unlawful.

(d) Reliance as Safe Harbor. For purposes of any determination of good faith, Indemnitee shall be deemed to have acted in good faith if Indemnitee's action is based on the records or books of account of the Enterprise, including financial statements, or on information supplied to Indemnitee by the officers of the Enterprise in the course of their duties, or on the advice of legal counsel for the Enterprise or on information or records given or reports made to the Enterprise by an independent certified public accountant or by an appraiser or other expert selected with the reasonable care by the Enterprise. The provisions of this Section 11(d) shall not be deemed to be exclusive or to limit in any way the other circumstances in which Indemnitee may be deemed to have met the applicable standard of conduct set forth in this Agreement.

(e) Actions of Others. The knowledge or actions, or failure to act, of any director, officer, agent or employee of the Enterprise shall not be imputed to Indemnitee for purposes of determining the right to indemnification under this Agreement.

Section 12 Remedies of Indemnitee.

(a) Subject to Section 12(e) hereof, in the event that (i) a determination is made pursuant to Section 10 of this Agreement that Indemnitee is not entitled to indemnification under this Agreement, (ii) advancement is not timely made pursuant to Section 8 of this Agreement, (iii) no determination of entitlement to indemnification shall have been made pursuant to Section 10(a) of this Agreement within ninety (90) days after receipt by the Corporation of the request for indemnification, (iv) payment of indemnification is not made pursuant to Sections 4 or 5 or the last sentence of Section 10(a) of this Agreement within ten (10) days after receipt by the Corporation of a written request therefor, (v) payment of indemnification pursuant to Sections 2, 3 or 6 of this Agreement is not made within ten (10) days after a determination has been made that Indemnitee is entitled to indemnification, or (vi) in the event that the Corporation or any other Person takes or threatens to take any action to declare this Agreement void or unenforceable, or institutes any litigation or other action or proceeding designed to deny, or to recover from, Indemnitee the benefits provided or intended to be provided to Indemnitee hereunder, Indemnitee shall be entitled to an adjudication by a court of Indemnitee's entitlement to such indemnification or advancement. Alternatively, Indemnitee, at Indemnitee's option, may seek an award in arbitration to be conducted by a single arbitrator pursuant to the Commercial Arbitration Rules of the American Arbitration Association. The Corporation shall not oppose Indemnitee's right to seek any such adjudication or award in arbitration.

(b) In the event that a determination shall have been made pursuant to Section 10(a) of this Agreement that Indemnitee is not entitled to indemnification, any judicial proceeding or arbitration commenced pursuant to this Section 12 shall be conducted in all respects as a de novo trial, or arbitration, on the merits and Indemnitee shall not be prejudiced by reason of that adverse determination. In any judicial proceeding or arbitration commenced pursuant to this Section 12 the Corporation shall have the burden of proving Indemnitee is not entitled to indemnification or advancement, as the case may be.

(c) If a determination shall have been made pursuant to Section 10(a) of this Agreement that Indemnitee is entitled to indemnification, the Corporation shall be bound by such determination in any judicial proceeding or arbitration commenced pursuant to this Section 12, absent a prohibition of such indemnification under applicable law.

(d) The Corporation shall, to the fullest extent not prohibited by applicable law, be precluded from asserting in any judicial proceeding or arbitration commenced pursuant to this Section 12 that the procedures and presumptions of this Agreement are not valid, binding and enforceable and shall stipulate in any such court or before any such arbitrator that the Corporation is bound by all the provisions of this Agreement. It is the intent of the Corporation that Indemnitee not be required to incur Expenses associated with the interpretation, enforcement or defense of Indemnitee's rights under this Agreement by litigation or otherwise because the cost and expense thereof would substantially detract from the benefits intended to be extended to Indemnitee hereunder. The Corporation shall indemnify Indemnitee against any and all such Expenses and, if requested by Indemnitee, shall (within ten (10) days after receipt by the Corporation of a written request therefore) advance, to the extent not prohibited by applicable law, such Expenses to Indemnitee, which are incurred by Indemnitee in connection with any action brought by Indemnitee for indemnification or advancement from the Corporation under this Agreement or under any directors' and officers' liability insurance policies maintained by the Corporation, regardless of whether Indemnitee ultimately is determined to be entitled to such indemnification, advancement or insurance recovery, as the case may be.

(e) Notwithstanding anything in this Agreement to the contrary, no determination as to entitlement to indemnification under this Agreement shall be required to be made prior to the final disposition of the Proceeding; provided that, in absence of any such determination with respect to such Proceeding, the Corporation shall advance Expenses with respect to such Proceeding.

Section 13 Non-Exclusivity; Survival of Rights; Insurance; Subrogation.

(a) The rights of indemnification and to receive advancement as provided by this Agreement shall not be deemed exclusive of any other rights to which Indemnitee may at any time be entitled under applicable law, the Certificate of Incorporation, the Bylaws, any agreement, a vote of stockholders or a resolution of directors, or otherwise. No amendment, alteration or repeal of this Agreement or of any provision hereof shall limit or restrict any right of Indemnitee under this Agreement in respect of any action taken or omitted by such Indemnitee in Indemnitee's Corporate Status prior to such amendment, alteration or repeal. To the extent that a change in Delaware law, whether

by statute or judicial decision, permits greater indemnification or advancement than would be afforded currently under the Bylaws or this Agreement, it is the intent of the parties hereto that Indemnitee shall enjoy by this Agreement the greater benefits so afforded by such change. No right or remedy herein conferred is intended to be exclusive of any other right or remedy, and every other right and remedy shall be cumulative and in addition to every other right and remedy given hereunder or now or hereafter existing at law or in equity or otherwise. The assertion or employment of any right or remedy hereunder, or otherwise, shall not prevent the concurrent assertion or employment of any other right or remedy.

(b) The Corporation hereby acknowledges that Indemnitee may have certain rights to indemnification, advancement and insurance provided by one or more Persons with whom or which Indemnitee may be associated. The Corporation hereby acknowledges and agrees that (i) the Corporation shall be the indemnitor of first resort with respect to any Proceeding, Expense, Liability or matter that is the subject of the Indemnity Obligations, (ii) the Corporation shall be primarily liable for all Indemnity Obligations and any indemnification afforded to Indemnitee in respect of any Proceeding, Expense, Liability or matter that is the subject of Indemnity Obligations, whether created by applicable law, organizational or constituent documents, contract (including this Agreement) or otherwise, (iii) any obligation of any other Persons with whom or which Indemnitee may be associated to indemnify Indemnitee or advance Expenses or Liabilities to Indemnitee in respect of any Proceeding shall be secondary to the obligations of the Corporation hereunder, (iv) the Corporation shall be required to indemnify Indemnitee and advance Expenses or Liabilities to Indemnitee hereunder to the fullest extent provided herein without regard to any rights Indemnitee may have against any other Person with whom or which Indemnitee may be associated or insurer of any such Person and (v) the Corporation irrevocably waives, relinquishes and releases any other Person with whom or which Indemnitee may be associated from any claim of contribution, subrogation or any other recovery of any kind in respect of amounts paid by the Corporation hereunder. In the event any other Person with whom or which Indemnitee may be associated or their insurers advances or extinguishes any liability or loss which is the subject of any Indemnity Obligation owed by the Corporation or payable under any Corporation insurance policy, the payor shall have a right of subrogation against the Corporation or its insurer or insurers for all amounts so paid which would otherwise be payable by the Corporation or its insurer or insurers under this Agreement. In no event will payment of an Indemnity Obligation by any other Person with whom or which Indemnitee may be associated or their insurers affect the obligations of the Corporation hereunder or shift primary liability for any Indemnity Obligation to any other Person with whom or which Indemnitee may be associated. Any indemnification, insurance or advancement provided by any other Person with whom or which Indemnitee may be associated with respect to any Liability arising as a result of Indemnitee's Corporate Status or capacity as an officer or director of any Person is specifically in excess over any Indemnity Obligation of the Corporation or any collectible insurance (including but not limited to any malpractice insurance or professional errors and omissions insurance) provided by the Corporation under this Agreement.

(c) The Corporation shall maintain an insurance policy or policies providing liability insurance providing reasonable and customary coverage as compared with similarly situated companies (as determined by the Board in its reasonable discretion) for directors, officers, employees, or agents of the Corporation or of any other Enterprise, and Indemnitee shall be covered by such policy or policies in accordance with its or their terms to the maximum extent of the coverage available for any such director, officer, employee or agent under such policy or policies and such policies shall provide for and recognize that the insurance policies are primary to any rights to indemnification, advancement or insurance proceeds to which Indemnitee may be entitled from one or more Persons with whom or which Indemnitee may be associated to the same extent as the Corporation's indemnification and advancement obligations set forth in this Agreement. If, at the time of the receipt of a notice of a claim pursuant to the terms hereof, the Corporation has director and officer liability insurance in effect, the Corporation shall give prompt notice of the commencement of such Proceeding to the insurers in accordance with the procedures set forth in the respective policies. The Corporation shall thereafter take all necessary or desirable action to cause such insurers to pay, on behalf of Indemnitee, all amounts payable as a result of such Proceeding in accordance with the terms of such policies.

(d) In the event of any payment under this Agreement, the Corporation shall not be subrogated to the rights of recovery of Indemnitee, including rights of indemnification provided to Indemnitee from any other person or entity with whom Indemnitee may be associated; provided, however, that the Corporation shall be subrogated to the extent of any such payment of all rights of recovery of Indemnitee under insurance policies of the Corporation or any of its subsidiaries.

(e) The indemnification and contribution provided for in this Agreement will remain in full force and effect regardless of any investigation made by or on behalf of Indemnitee.

Section 14 Duration of Agreement; Not Employment Contract. This Agreement shall continue until and terminate upon the latest of: (i) ten (10) years after the date that Indemnitee shall have ceased to serve as a director, officer, employee or agent of the Corporation or any other Enterprise, (ii) the date of final termination of any Proceeding then pending in respect of which Indemnitee is granted rights of indemnification or advancement hereunder and of any proceeding commenced by Indemnitee pursuant to Section 12 of this Agreement relating thereto or (iii) the expiration of all statutes of limitation applicable to possible Proceedings to which Indemnitee may be subject arising out of the Indemnitee's Corporate Status. The indemnification provided under this Agreement shall continue as to the Indemnitee even though he or she may have ceased to be a director of the Corporation or of any the Corporation's direct or indirect subsidiaries or to have Corporate Status. This Agreement shall be binding upon the Corporation and its successors and assigns and shall inure to the benefit of Indemnitee and Indemnitee's heirs, executors and administrators. This Agreement shall not be deemed an employment contract between the Corporation (or any of its subsidiaries or any other Enterprise) and Indemnitee. Indemnitee specifically acknowledges that Indemnitee's employment with the Corporation (or any of its subsidiaries or any other Enterprise), if any, is at will, and Indemnitee may be discharged at any time for any reason, with or without cause, except as may be otherwise provided in any written employment contract between Indemnitee and the Corporation (or any of its subsidiaries or any other Enterprise), other applicable formal severance policies duly adopted by the Board, or, with respect to service as a director of the Corporation, by the Certificate of Incorporation, the Bylaws or the DGCL.

Section 15 Severability. If any provision or provisions of this Agreement shall be held to be invalid, illegal or unenforceable for any reason whatsoever: (a) the validity, legality and enforceability of the remaining provisions of this Agreement (including, without limitation, each portion of any Section of this Agreement containing any such provision held to be invalid, illegal or unenforceable that is not itself invalid, illegal or unenforceable) shall not in any way be affected or impaired thereby and shall remain enforceable to the fullest extent permitted by applicable law; (b) such provision or provisions shall be deemed reformed to the extent necessary to conform to applicable law and to give the maximum effect to the intent of the parties hereto; and (c) to the fullest extent possible, the provisions of this Agreement (including, without limitation, each portion of any Section of this Agreement containing any such provision held to be invalid, illegal or unenforceable that is not itself invalid, illegal or unenforceable) shall be construed so as to give effect to the intent manifested thereby.

Section 16 Enforcement.

(a) The Corporation expressly confirms and agrees that it has entered into this Agreement and assumed the obligations imposed on it hereby in order to induce Indemnitee to serve as a director, officer, employee or agent of the Corporation, and the Corporation acknowledges that Indemnitee is relying upon this Agreement in serving as a director, officer, employee or agent of the Corporation.

(b) This Agreement constitutes the entire agreement between the parties hereto with respect to the subject matter hereof and supersedes all prior agreements and understandings, oral, written and implied, between the parties hereto with respect to the subject matter hereof; provided, however, that this Agreement is a supplement to and in furtherance of the Certificate of Incorporation, the Bylaws and applicable law, and shall not be deemed a substitute therefore, nor diminish or abrogate any rights of Indemnitee thereunder.

Section 17 Modification and Waiver. No supplement, modification or amendment of this Agreement shall be binding unless executed in writing by the parties thereto. No waiver of any of the provisions of this Agreement shall be deemed to be or shall constitute a waiver of any other provision of this Agreement nor shall any waiver constitute a continuing waiver.

Section 18 Notices. All notices, requests, demands and other communications under this Agreement shall be in writing and shall be deemed to have been duly given if (a) delivered by hand and receipted for by the party to whom said notice or other communication shall have been directed, (b) mailed by certified or registered mail with postage prepaid, on the third business day after the date on which it is so mailed, (c) mailed by reputable overnight courier and receipted for by the party to whom said notice or other communication shall have been directed or (d) sent by facsimile transmission, with receipt of oral confirmation that such transmission has been received:

(i) If to Indemnitee, at such address as Indemnitee shall provide to the Corporation.

(ii) If to the Corporation to:

Ramaco Resources, Inc.

250 West Main Street, Suite 210

Lexington, Kentucky 40507

Attention: Board of Directors

or to any other address as may have been furnished to Indemnitee by the Corporation.

Section 19 Contribution. To the fullest extent permissible under applicable law, if the indemnification provided for in this Agreement is unavailable to Indemnitee for any reason whatsoever, the Corporation, in lieu of indemnifying Indemnitee, shall contribute to the amount incurred by Indemnitee, whether for Liabilities or for Expenses, in connection with any claim relating to an indemnifiable event under this Agreement, in such proportion as is deemed fair and reasonable in light of all of the circumstances of such Proceeding in order to reflect (a) the relative benefits received by the Corporation and Indemnitee as a result of the event(s) and transaction(s) giving cause to such Proceeding; and (b) the relative fault of the Corporation (and its directors, officers, employees and agents) and Indemnitee in connection with such event(s) and transaction(s).

Section 20 Applicable Law. This Agreement and the legal relations among the parties shall be governed by, and construed and enforced in accordance with, the laws of the State of Delaware, without regard to its conflict of laws rules.

Section 21 Counterparts. This Agreement may be executed in one or more counterparts, each of which shall for all purposes be deemed to be an original but all of which together shall constitute one and the same Agreement. Only one such counterpart signed by the party against whom enforceability is sought needs to be produced to evidence the existence of this Agreement.

Section 22 Miscellaneous. Use of the masculine pronoun shall be deemed to include usage of the feminine pronoun where appropriate. The headings of the paragraphs of this Agreement are inserted for convenience only and shall not be deemed to constitute part of this Agreement or to affect the construction thereof.

IN WITNESS WHEREOF, the parties have caused this Agreement to be signed effective as of the day and year first above written.

RAMACO RESOURCES, INC.

By:
/s/ Randall W. Atkins_____
Name: Randall W. Atkins
Title: Executive Chairman

INDEMNITEE

By: /s/ Peter Leidel_____
Name: Peter Leidel

[Signature Page to Indemnification Agreement]

INDEMNIFICATION AGREEMENT

This Indemnification Agreement ("Agreement") is dated as of February 18, 2020 and made effective as of November 10, 2019, by and between Ramaco Resources, Inc., a Delaware corporation (the "Corporation"), and Trent Kososki ("Indemnitee").

RECITALS:

WHEREAS, directors, officers and other persons in service to corporations or business enterprises are subjected to expensive and time-consuming litigation relating to, among other things, matters that traditionally would have been brought only against the Corporation or business enterprise itself;

WHEREAS, highly competent persons have become more reluctant to serve as directors, officers or in other capacities unless they are provided with adequate protection through insurance and adequate indemnification against inordinate risks of claims and actions against them arising out of their service to and activities on behalf of the corporation;

WHEREAS, the Board of Directors of the Corporation (the "Board") has determined that the increased difficulty in attracting and retaining such persons is detrimental to the best interests of the Corporation and its stockholders and that the Corporation should act to assure such persons that there will be increased certainty of such protection in the future;

WHEREAS, (i) the Amended and Restated Bylaws of the Corporation (as may be amended, the "Bylaws") require indemnification of the officers and directors of the Corporation, (ii) Indemnitee may also be entitled to indemnification pursuant to the General Corporation Law of the State of Delaware ("DGCL") and (iii) the Bylaws and the DGCL expressly provide that the indemnification provisions set forth therein are not exclusive and thereby contemplate that contracts may be entered into between the Corporation and members of the Board, officers and other persons with respect to indemnification;

WHEREAS, this Agreement is a supplement to and in furtherance of the Bylaws and the Amended and Restated Certificate of Incorporation of the Corporation (as may be amended, the "Certificate of Incorporation") and any resolutions adopted pursuant thereto, and shall not be deemed a substitute therefore, nor to diminish or abrogate any rights of Indemnitee thereunder;

WHEREAS, (i) Indemnitee does not regard the protection available under the Bylaws and insurance as adequate in the present circumstances, (ii) Indemnitee may not be willing to serve or continue to serve as a director or officer of the Corporation without adequate protection, (iii) the Corporation desires Indemnitee to serve in such capacity, and (iv) Indemnitee is willing to serve, continue to serve and to take on additional service for or on behalf of the Corporation on the condition that he be so indemnified for the entire period that Indemnitee has served and continues to serve as a director or officer of the Corporation; and

WHEREAS, Indemnitee began serving as a director on the Board on the Effective Date.

AGREEMENT:

NOW, THEREFORE, in consideration of the premises and the covenants contained herein, the Corporation and Indemnitee do hereby covenant and agree as follows:

Section 1 As used in this Agreement:

"Affiliate" of any specified Person shall mean any other Person controlling, controlled by or under common control with such specified Person.

"Corporate Status" describes the status of a person who is or was a director, officer, employee or agent of (i) the Corporation or (ii) any other corporation, limited liability company, partnership or joint venture, trust, employee benefit plan or other enterprise which such person is or was serving at the request of the Corporation.

"Disinterested Director" shall mean a director of the Corporation who is not and was not a party to the Proceeding in respect of which indemnification is sought by Indemnitee.

"Enterprise" shall mean the Corporation and any other corporation, limited liability company, partnership, joint venture, trust, employee benefit plan or other enterprise of which Indemnitee is or was serving at the request of the Corporation as a director, officer, employee, agent or fiduciary.

"Exchange Act" shall mean the Securities Exchange Act of 1934, as amended.

"Expenses" shall mean all reasonable costs, expenses, fees and charges, including, without limitation, attorneys' fees, document and e-discovery costs, litigation expenses, retainers, court costs, transcript costs, fees of experts, witness fees, travel expenses, duplicating costs, printing and binding costs, telephone charges, postage, delivery service fees, and all other disbursements or expenses of the types customarily incurred in connection with prosecuting, defending, preparing to prosecute or defend, investigating, being or preparing to be a witness in, or otherwise participating in, a Proceeding. Expenses also shall include, without limitation, (i) expenses incurred in connection with any appeal resulting from, incurred by Indemnitee in connection with, arising out of, or in respect of or relating to, any Proceeding, including, without limitation, the premium, security for, and other costs relating to any cost bond, supersedes bond, or other appeal bond or its equivalent, (ii) for purposes of Section 12(d) hereof only, expenses incurred by Indemnitee in connection with the interpretation, enforcement or defense of Indemnitee's rights under this Agreement, by litigation or otherwise, (iii) any federal, state, local or foreign taxes imposed on Indemnitee as a result of the actual or deemed receipt of any payments under this Agreement, and (iv) any interest, assessments or other charges in respect of the foregoing. "Expenses" shall not include "Liabilities."

"Indemnity Obligations" shall mean all obligations of the Corporation to Indemnitee under this Agreement, including the Corporation's obligations to provide indemnification to Indemnitee and advance Expenses to Indemnitee under this Agreement.

"Independent Counsel" shall mean a law firm of fifty (50) or more attorneys, or a member of a law firm of fifty (50) or more attorneys, that is experienced in matters of corporation law and neither presently is, nor in the past five (5) years has been, retained to represent: (i) the Corporation or Indemnitee in any matter material to either such party (other than with respect to matters concerning Indemnitee under this Agreement, or of other indemnitees under similar indemnification agreements), or (ii) any other party to the Proceeding giving rise to a claim for indemnification hereunder; provided, however, that the term "Independent Counsel" shall not include any person who, under the applicable standards of professional conduct then prevailing, would have a conflict of interest in representing either the Corporation or Indemnitee in an action to determine Indemnitee's rights under this Agreement.

"Liabilities" shall mean all claims, liabilities, damages, losses, judgments, orders, fines, penalties and other amounts payable in connection with, arising out of, or in respect of or relating to any Proceeding, including, without limitation, amounts paid in settlement in any Proceeding and all costs and expenses in complying with any judgment, order or decree issued or entered in connection with any Proceeding or any settlement agreement, stipulation or consent decree entered into or issued in settlement of any Proceeding.

"Person" shall mean any individual, corporation, partnership, limited partnership, limited liability company, trust, governmental agency or body or any other legal entity.

"Proceeding" shall mean any threatened, pending or completed action, claim, suit, arbitration, alternate dispute resolution mechanism, formal or informal hearing, inquiry or investigation, litigation, inquiry, administrative hearing or any other actual, threatened or completed judicial, administrative or arbitration proceeding (including, without limitation, any such proceeding under the Securities Act of 1933, as amended, or the Exchange Act or any other federal law, state law, statute or regulation), whether brought in the right of the Corporation or otherwise, and whether of a civil, criminal, administrative or investigative nature, in each case, in which Indemnitee was, is or will be, or is threatened to be, involved as a party, witness or otherwise by reason of the fact that Indemnitee is or was a director or officer of the Corporation, by reason of any actual or alleged action taken by Indemnitee or of any action on Indemnitee's part while acting as director or officer of the Corporation, or by reason of the fact that he is or was serving at the request of the Corporation as a director, officer, employee or agent of another corporation, limited liability company, partnership, joint venture, trust or other enterprise, in each case whether or not serving in such

capacity at the time any liability or expense is incurred for which indemnification, reimbursement, or advancement can be provided under this Agreement

(a) For the purpose hereof, references to "fines" shall include any excise tax assessed with respect to any employee benefit plan; references to "serving at the request of the Corporation" shall include any service as a director, officer, employee or agent of the Corporation which imposes duties on, or involves services by, such director, officer, employee or agent with respect to an employee benefit plan, its participants or beneficiaries; and a Person who acted in good faith and in a manner he reasonably believed to be in the best interests of the participants and beneficiaries of an employee benefit plan shall be deemed to have acted in a manner "not opposed to the best interests of the Corporation" as referred to in this Agreement.

Section 2 Indemnity in Third-Party Proceedings. The Corporation shall indemnify and hold harmless Indemnitee, to the fullest extent permitted by applicable law, from and against all Liabilities and Expenses suffered or reasonably incurred (and, in the case of retainers, reasonably expected to be incurred) by Indemnitee or on Indemnitee's behalf in connection with any Proceeding (other than any Proceeding brought by or in the right of the Corporation to procure a judgment in its favor), or any claim, issue or matter therein.

Section 3 Indemnity in Proceedings by or in the Right of the Corporation. The Corporation shall indemnify and hold harmless Indemnitee, to the fullest extent permitted by applicable law, from and against all Liabilities and Expenses suffered or incurred by Indemnitee or on Indemnitee's behalf in connection with any Proceeding brought by or in the right of the Corporation to procure a judgment in its favor, or any claim, issue or matter therein. No indemnification for Liabilities and Expenses shall be made under this Section 3 in respect of any claim, issue or matter as to which Indemnitee shall have been finally adjudged by a court to be liable to the Corporation, unless and only to the extent that the Delaware Court of Chancery or any court in which the Proceeding was brought shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, Indemnitee is fairly and reasonably entitled to such indemnification.

Section 4 Indemnification for Expenses of a Party Who is Wholly or Partly Successful. Notwithstanding any other provisions of this Agreement, and without limiting the rights of Indemnitee under any other provision hereof, including any rights to indemnification pursuant to Sections 2 or 3 hereof, to the fullest extent permitted by applicable law, to the extent that Indemnitee is successful, on the merits or otherwise, in any Proceeding or in defense of any claim, issue or matter therein, in whole or in part, the Corporation shall indemnify Indemnitee against all Expenses actually and reasonably incurred by Indemnitee or on Indemnitee's behalf in connection with each successfully resolved Proceeding, claim, issue or matter. For purposes of this Section 4 and without limitation, the termination of any Proceeding or claim, issue or matter in such a Proceeding by dismissal, with or without prejudice, shall be deemed to be a successful result as to such claim, issue or matter.

Section 5 Indemnification For Expenses of a Witness. Notwithstanding any other provision of this Agreement, to the fullest extent permitted by applicable law and to the extent that Indemnitee is, by reason of Indemnitee's Corporate Status, a witness, or is made (or asked) to respond to discovery requests or a subpoena or similar demand for documents or testimony, in any Proceeding to which Indemnitee is not a party, Indemnitee shall be indemnified against all Expenses suffered or incurred (or, in the case of retainers, reasonably expected to be incurred) by Indemnitee or on Indemnitee's behalf in connection therewith.

Section 6 Additional Indemnification. Notwithstanding any limitation in Sections 2, 3 or 4 hereof, the Corporation shall indemnify Indemnitee to the fullest extent permitted by applicable law if Indemnitee is a party to or threatened to be made a party to any Proceeding (including a Proceeding by or in the right of the Corporation to procure a judgment in its favor) against all Liabilities and Expenses suffered or reasonably incurred by Indemnitee in connection with such Proceeding, including but not limited to:

(a) the fullest extent permitted by the provision of the DGCL that authorizes or contemplates additional indemnification by agreement, or the corresponding provision of any amendment to or replacement of the DGCL; and

(b) the fullest extent authorized or permitted by any amendments to or replacements of the DGCL adopted after the date of this Agreement that increase the extent to which a corporation may indemnify its officers and directors.

Section 7 Exclusions. Notwithstanding any provision in this Agreement, the Corporation shall not be obligated under this Agreement to indemnify or hold harmless Indemnitee:

(a) for which payment has actually been made to or on behalf of Indemnitee under any insurance policy obtained by the Corporation except with respect to any excess beyond the amount paid under such insurance policy;

(b) for an accounting of profits made from the purchase and sale (or sale and purchase) by Indemnitee of securities of the Corporation within the meaning of Section 16(b) of the Exchange Act or similar provisions of state statutory law or common law;

(c) for any reimbursement of the Corporation by Indemnitee of any bonus or other incentive-based or equity-based compensation or of any profits realized by Indemnitee from the sale of securities of the Corporation, as required in each case under the Exchange Act (including any such reimbursements that arise from an accounting restatement of the Corporation pursuant to Section 304 of the Sarbanes-Oxley Act of 2002 (the "***Sarbanes-Oxley Act***"), or the payment to the Corporation of profits arising from the purchase and sale by Indemnitee of securities in violation of Section 306 of the Sarbanes-Oxley Act), if Indemnitee is held liable therefor (including pursuant to any settlement arrangements) or in respect of claw-back provisions promulgated under the rules and regulations of the Securities and Exchange Commission pursuant to the Dodd-Frank Wall Street Reform and Consumer Protection Act; or

(d) except as provided in Section 12(d) of this Agreement, in connection with any Proceeding (or any part of any Proceeding) initiated by Indemnitee, including any Proceeding (or any part of any Proceeding) initiated by Indemnitee against the Corporation or its directors, officers, employees or other indemnitees, unless (i) the Board authorized the Proceeding (or any part of any Proceeding) prior to its initiation or (ii) the Corporation provides the indemnification, in its sole discretion, pursuant to the powers vested in the Corporation under applicable law; or

(e) if a final decision by a court having jurisdiction in the matter shall determine that such indemnification is not lawful.

Section 8 Advancement. In accordance with the pre-existing requirements of the Bylaws, and notwithstanding any provision of this Agreement to the contrary, the Corporation shall advance, to the extent not prohibited by applicable law, the Expenses reasonably incurred by Indemnitee in connection with any Proceeding, and such advancement shall be made within ten (10) days after the receipt by the Corporation of a statement or statements requesting such advances from time to time, whether prior to or after final disposition of any Proceeding. Advances shall be unsecured and interest free. Advances shall be made without regard to Indemnitee's ability to repay the Expenses and without regard to Indemnitee's ultimate entitlement to indemnification under the other provisions of this Agreement. Advances shall include any and all Expenses reasonably incurred pursuing an action to enforce this right of advancement, including Expenses incurred preparing and forwarding statements to the Corporation to support the advances claimed. Indemnitee shall qualify for advances upon the execution and delivery to the Corporation of this Agreement, which shall constitute an undertaking providing that Indemnitee undertakes to repay the amounts advanced to the extent that it is ultimately determined that Indemnitee is not entitled to be indemnified by the Corporation. This Section 8 shall not apply to any claim made by Indemnitee for which indemnity is excluded pursuant to Section 7 hereof.

Section 9 Procedure for Notification and Defense of Claim.

(a) Indemnitee shall promptly notify the Corporation in writing of any Proceeding with respect to which Indemnitee intends to seek indemnification or advancement hereunder following the receipt by Indemnitee of written notice thereof. The written notification to the Corporation shall include a description of the nature of the Proceeding and the facts underlying the Proceeding. To obtain indemnification under this Agreement, Indemnitee shall submit to the Corporation a written request, including therein or therewith such documentation and information as is reasonably available to Indemnitee and is reasonably necessary to determine whether and to what extent Indemnitee is entitled to indemnification following the final disposition of such Proceeding. Any delay or failure by Indemnitee to notify the Corporation hereunder will not relieve the Corporation from any liability which it may have to Indemnitee hereunder or otherwise than under this Agreement, and any delay or failure in so notifying the Corporation shall not constitute a waiver by Indemnitee of any rights under this Agreement. The Secretary of the Corporation shall, promptly upon receipt of such a request for indemnification, advise the Board in writing that Indemnitee has requested indemnification.

(b) In the event Indemnitee is entitled to indemnification and/or advancement with respect to any Proceeding, Indemnitee may, at Indemnitee's option, (i) retain counsel selected by Indemnitee and approved by the Corporation to defend Indemnitee in such Proceeding, at the sole expense of the Corporation (which approval shall not be unreasonably withheld, conditioned or delayed), or (ii) have the Corporation assume the defense of Indemnitee in such Proceeding, in which case the Corporation shall assume the defense of such Proceeding with counsel selected by the Corporation and approved by Indemnitee (which approval shall not be unreasonably withheld, conditioned or delayed) within ten (10) days of the Corporation's receipt of written notice of Indemnitee's election to cause the Corporation to do so. If the Corporation is required to assume the defense of any such Proceeding, it shall engage legal counsel for such defense, and the Corporation shall be solely responsible for all fees and expenses of such legal counsel and otherwise of such defense. Such legal counsel may represent both Indemnitee and the Corporation (and any other party or parties entitled to be indemnified by the Corporation with respect to such matter) unless, in the reasonable opinion of legal counsel to Indemnitee, there is a conflict of interest between Indemnitee and the Corporation (or any other such party or parties) or there are legal defenses available to Indemnitee that are not available to the Corporation (or any such other party or parties). Notwithstanding either party's assumption of responsibility for defense of a Proceeding, each party shall have the right to engage separate counsel at its own expense. The party having responsibility for defense of a Proceeding shall provide the other party and its counsel with all copies of pleadings and material correspondence relating to the Proceeding. Indemnitee and the Corporation shall reasonably cooperate in the defense of any Proceeding with respect to which indemnification is sought hereunder, regardless of whether the Corporation or Indemnitee assumes the defense thereof. Indemnitee may not settle or compromise any Proceeding without the prior written consent of the Corporation, which consent shall not be unreasonably withheld, conditioned or delayed. The Corporation may not settle or compromise any Proceeding without the prior written consent of Indemnitee.

Section 10 Procedure Upon Application for Indemnification.

(a) Upon written request by Indemnitee for indemnification pursuant to Section 9(a) hereof, if any determination by the Corporation is required by applicable law with respect to Indemnitee's entitlement thereto, such determination shall be made (i) if Indemnitee shall request such determination be made by Independent Counsel, by Independent Counsel, and (ii) in all other circumstances, (A) by a majority vote of the Disinterested Directors, even though less than a quorum of the Board, (B) by a committee of Disinterested Directors designated by a majority vote of the Disinterested Directors, even though less than a quorum of the Board, (C) if there are no such Disinterested Directors or, if such Disinterested Directors so direct, by Independent Counsel in a written opinion to the Board, a copy of which shall be delivered to Indemnitee, or (D) if so directed by the Board, by the stockholders of the Corporation; and, if it is so determined that Indemnitee is entitled to indemnification, payment to Indemnitee shall be made within ten (10) days after such determination. Indemnitee shall cooperate with the person, persons or entity making such determination with respect to Indemnitee's entitlement to indemnification, including providing to such person, persons or entity upon reasonable advance request any documentation or information which is not privileged or otherwise protected from disclosure and which is reasonably available to Indemnitee and reasonably necessary to such determination. Any Expenses incurred by Indemnitee in so cooperating with the person, persons or entity making such determination shall be borne by the Corporation (irrespective of the determination as to Indemnitee's entitlement to indemnification) and the Corporation hereby indemnifies and agrees to hold Indemnitee harmless therefrom. The Corporation will not deny any written request for indemnification hereunder made in good faith by Indemnitee unless a determination as to Indemnitee's entitlement to such indemnification described in this Section 10(a) has been made. The Corporation agrees to pay the reasonable fees and expenses of the Independent Counsel referred to above and to fully indemnify such counsel against any and all Liabilities and Expenses arising out of or relating to this Agreement or its engagement pursuant hereto.

(b) In the event the determination of entitlement to indemnification is to be made by Independent Counsel pursuant to Section 10(a) hereof, (i) the Independent Counsel shall be selected by the Corporation within ten (10) days of the Submission Date (the cost of such Independent Counsel to be paid by the Corporation), (ii) the Corporation shall give written notice to Indemnitee advising it of the identity of the Independent Counsel so selected and (iii) Indemnitee may, within ten (10) days after such written notice of selection shall have been given, deliver to the Corporation Indemnitee's written objection to such selection. Such objection by Indemnitee may be asserted only on the ground that the Independent Counsel selected does not meet the requirements of "Independent Counsel" as defined in this Agreement. If such written objection is made and substantiated, the Independent Counsel selected shall not serve as Independent Counsel unless and until Indemnitee withdraws the objection or a court has determined that such

objection is without merit. Absent a timely objection, the person so selected shall act as Independent Counsel. If no Independent Counsel shall have been selected and not objected to before the later of (i) thirty (30) days after the later of submission by Indemnitee of a written request for indemnification pursuant to Section 10(a) hereof (the "Submission Date") and (ii) ten (10) days after the final disposition of the Proceeding, each of the Corporation and Indemnitee shall select a law firm or member of a law firm meeting the qualifications to serve as Independent Counsel, and such law firms or members of law firms shall select the Independent Counsel. Upon the due commencement of any judicial proceeding or arbitration pursuant to Section 12(a) of this Agreement, Independent Counsel shall be discharged and relieved of any further responsibility in such capacity (subject to the applicable standards of professional conduct then prevailing).

Section 11 Presumptions and Effect of Certain Proceedings.

(a) In making a determination with respect to entitlement to indemnification hereunder, the person, persons or entity making such determination shall, to the fullest extent not prohibited by applicable law, presume that Indemnitee is entitled to indemnification under this Agreement if Indemnitee has submitted a request for indemnification in accordance with Section 9(a) of this Agreement, and the Corporation shall, to the fullest extent not prohibited by applicable law, have the burden of proof to overcome that presumption in connection with the making by any person, persons or entity of any determination contrary to that presumption. Neither the failure of the Corporation (including by its directors or independent legal counsel) to have made a determination prior to the commencement of any action pursuant to this Agreement that indemnification is proper in the circumstances because Indemnitee has met the applicable standard of conduct, nor an actual determination by the Corporation (including by its directors or independent legal counsel) that Indemnitee has not met such applicable standard of conduct, shall be a defense to the action or create a presumption that Indemnitee has not met the applicable standard of conduct.

(b) Subject to Section 12(e) hereof, if the person, persons or entity empowered or selected under Section 10 of this Agreement to determine whether Indemnitee is entitled to indemnification shall not have made a determination within sixty (60) days after receipt by the Corporation of the request therefore, the requisite determination of entitlement to indemnification shall, to the fullest extent not prohibited by applicable law, be deemed to have been made and Indemnitee shall be entitled to such indemnification, absent a prohibition of such indemnification under applicable law; provided, however, that such 60-day period may be extended for a reasonable time, not to exceed an additional thirty (30) days, if (i) the determination is to be made by Independent Counsel and Indemnitee objects to the Corporation's selection of Independent Counsel and (ii) the Independent Counsel ultimately selected requires such additional time for the obtaining or evaluating of documentation or information relating thereto; provided further, however, that such 60-day period may also be extended for a reasonable time, not to exceed an additional sixty (60) days, if the determination of entitlement to indemnification is to be made by the stockholders of the Corporation.

(c) The termination of any Proceeding or of any claim, issue or matter therein, by judgment, order, settlement or conviction, or upon a plea of nolo contendere or its equivalent, shall not (except as otherwise expressly provided in this Agreement) adversely affect the right of Indemnitee to indemnification or create a presumption that Indemnitee did not act in good faith and in a manner which he reasonably believed to be in or not opposed to the best interests of the Corporation or, with respect to any criminal Proceeding, that Indemnitee had reasonable cause to believe that Indemnitee's conduct was unlawful.

(d) Reliance as Safe Harbor. For purposes of any determination of good faith, Indemnitee shall be deemed to have acted in good faith if Indemnitee's action is based on the records or books of account of the Enterprise, including financial statements, or on information supplied to Indemnitee by the officers of the Enterprise in the course of their duties, or on the advice of legal counsel for the Enterprise or on information or records given or reports made to the Enterprise by an independent certified public accountant or by an appraiser or other expert selected with the reasonable care by the Enterprise. The provisions of this Section 11(d) shall not be deemed to be exclusive or to limit in any way the other circumstances in which Indemnitee may be deemed to have met the applicable standard of conduct set forth in this Agreement.

(e) Actions of Others. The knowledge or actions, or failure to act, of any director, officer, agent or employee of the Enterprise shall not be imputed to Indemnitee for purposes of determining the right to indemnification under this Agreement.

Section 12 Remedies of Indemnitee.

(a) Subject to Section 12(e) hereof, in the event that (i) a determination is made pursuant to Section 10 of this Agreement that Indemnitee is not entitled to indemnification under this Agreement, (ii) advancement is not timely made pursuant to Section 8 of this Agreement, (iii) no determination of entitlement to indemnification shall have been made pursuant to Section 10(a) of this Agreement within ninety (90) days after receipt by the Corporation of the request for indemnification, (iv) payment of indemnification is not made pursuant to Sections 4 or 5 or the last sentence of Section 10(a) of this Agreement within ten (10) days after receipt by the Corporation of a written request therefor, (v) payment of indemnification pursuant to Sections 2, 3 or 6 of this Agreement is not made within ten (10) days after a determination has been made that Indemnitee is entitled to indemnification, or (vi) in the event that the Corporation or any other Person takes or threatens to take any action to declare this Agreement void or unenforceable, or institutes any litigation or other action or proceeding designed to deny, or to recover from, Indemnitee the benefits provided or intended to be provided to Indemnitee hereunder, Indemnitee shall be entitled to an adjudication by a court of Indemnitee's entitlement to such indemnification or advancement. Alternatively, Indemnitee, at Indemnitee's option, may seek an award in arbitration to be conducted by a single arbitrator pursuant to the Commercial Arbitration Rules of the American Arbitration Association. The Corporation shall not oppose Indemnitee's right to seek any such adjudication or award in arbitration.

(b) In the event that a determination shall have been made pursuant to Section 10(a) of this Agreement that Indemnitee is not entitled to indemnification, any judicial proceeding or arbitration commenced pursuant to this Section 12 shall be conducted in all respects as a de novo trial, or arbitration, on the merits and Indemnitee shall not be prejudiced by reason of that adverse determination. In any judicial proceeding or arbitration commenced pursuant to this Section 12 the Corporation shall have the burden of proving Indemnitee is not entitled to indemnification or advancement, as the case may be.

(c) If a determination shall have been made pursuant to Section 10(a) of this Agreement that Indemnitee is entitled to indemnification, the Corporation shall be bound by such determination in any judicial proceeding or arbitration commenced pursuant to this Section 12, absent a prohibition of such indemnification under applicable law.

(d) The Corporation shall, to the fullest extent not prohibited by applicable law, be precluded from asserting in any judicial proceeding or arbitration commenced pursuant to this Section 12 that the procedures and presumptions of this Agreement are not valid, binding and enforceable and shall stipulate in any such court or before any such arbitrator that the Corporation is bound by all the provisions of this Agreement. It is the intent of the Corporation that Indemnitee not be required to incur Expenses associated with the interpretation, enforcement or defense of Indemnitee's rights under this Agreement by litigation or otherwise because the cost and expense thereof would substantially detract from the benefits intended to be extended to Indemnitee hereunder. The Corporation shall indemnify Indemnitee against any and all such Expenses and, if requested by Indemnitee, shall (within ten (10) days after receipt by the Corporation of a written request therefore) advance, to the extent not prohibited by applicable law, such Expenses to Indemnitee, which are incurred by Indemnitee in connection with any action brought by Indemnitee for indemnification or advancement from the Corporation under this Agreement or under any directors' and officers' liability insurance policies maintained by the Corporation, regardless of whether Indemnitee ultimately is determined to be entitled to such indemnification, advancement or insurance recovery, as the case may be.

(e) Notwithstanding anything in this Agreement to the contrary, no determination as to entitlement to indemnification under this Agreement shall be required to be made prior to the final disposition of the Proceeding; provided that, in absence of any such determination with respect to such Proceeding, the Corporation shall advance Expenses with respect to such Proceeding.

Section 13 Non-Exclusivity; Survival of Rights; Insurance; Subrogation.

(a) The rights of indemnification and to receive advancement as provided by this Agreement shall not be deemed exclusive of any other rights to which Indemnitee may at any time be entitled under applicable law, the Certificate of Incorporation, the Bylaws, any agreement, a vote of stockholders or a resolution of directors, or otherwise. No amendment, alteration or repeal of this Agreement or of any provision hereof shall limit or restrict any right of Indemnitee under this Agreement in respect of any action taken or omitted by such Indemnitee in Indemnitee's Corporate Status prior to such amendment, alteration or repeal. To the extent that a change in Delaware law, whether

by statute or judicial decision, permits greater indemnification or advancement than would be afforded currently under the Bylaws or this Agreement, it is the intent of the parties hereto that Indemnitee shall enjoy by this Agreement the greater benefits so afforded by such change. No right or remedy herein conferred is intended to be exclusive of any other right or remedy, and every other right and remedy shall be cumulative and in addition to every other right and remedy given hereunder or now or hereafter existing at law or in equity or otherwise. The assertion or employment of any right or remedy hereunder, or otherwise, shall not prevent the concurrent assertion or employment of any other right or remedy.

(b) The Corporation hereby acknowledges that Indemnitee may have certain rights to indemnification, advancement and insurance provided by one or more Persons with whom or which Indemnitee may be associated. The Corporation hereby acknowledges and agrees that (i) the Corporation shall be the indemnitor of first resort with respect to any Proceeding, Expense, Liability or matter that is the subject of the Indemnity Obligations, (ii) the Corporation shall be primarily liable for all Indemnity Obligations and any indemnification afforded to Indemnitee in respect of any Proceeding, Expense, Liability or matter that is the subject of Indemnity Obligations, whether created by applicable law, organizational or constituent documents, contract (including this Agreement) or otherwise, (iii) any obligation of any other Persons with whom or which Indemnitee may be associated to indemnify Indemnitee or advance Expenses or Liabilities to Indemnitee in respect of any Proceeding shall be secondary to the obligations of the Corporation hereunder, (iv) the Corporation shall be required to indemnify Indemnitee and advance Expenses or Liabilities to Indemnitee hereunder to the fullest extent provided herein without regard to any rights Indemnitee may have against any other Person with whom or which Indemnitee may be associated or insurer of any such Person and (v) the Corporation irrevocably waives, relinquishes and releases any other Person with whom or which Indemnitee may be associated from any claim of contribution, subrogation or any other recovery of any kind in respect of amounts paid by the Corporation hereunder. In the event any other Person with whom or which Indemnitee may be associated or their insurers advances or extinguishes any liability or loss which is the subject of any Indemnity Obligation owed by the Corporation or payable under any Corporation insurance policy, the payor shall have a right of subrogation against the Corporation or its insurer or insurers for all amounts so paid which would otherwise be payable by the Corporation or its insurer or insurers under this Agreement. In no event will payment of an Indemnity Obligation by any other Person with whom or which Indemnitee may be associated or their insurers affect the obligations of the Corporation hereunder or shift primary liability for any Indemnity Obligation to any other Person with whom or which Indemnitee may be associated. Any indemnification, insurance or advancement provided by any other Person with whom or which Indemnitee may be associated with respect to any Liability arising as a result of Indemnitee's Corporate Status or capacity as an officer or director of any Person is specifically in excess over any Indemnity Obligation of the Corporation or any collectible insurance (including but not limited to any malpractice insurance or professional errors and omissions insurance) provided by the Corporation under this Agreement.

(c) The Corporation shall maintain an insurance policy or policies providing liability insurance providing reasonable and customary coverage as compared with similarly situated companies (as determined by the Board in its reasonable discretion) for directors, officers, employees, or agents of the Corporation or of any other Enterprise, and Indemnitee shall be covered by such policy or policies in accordance with its or their terms to the maximum extent of the coverage available for any such director, officer, employee or agent under such policy or policies and such policies shall provide for and recognize that the insurance policies are primary to any rights to indemnification, advancement or insurance proceeds to which Indemnitee may be entitled from one or more Persons with whom or which Indemnitee may be associated to the same extent as the Corporation's indemnification and advancement obligations set forth in this Agreement. If, at the time of the receipt of a notice of a claim pursuant to the terms hereof, the Corporation has director and officer liability insurance in effect, the Corporation shall give prompt notice of the commencement of such Proceeding to the insurers in accordance with the procedures set forth in the respective policies. The Corporation shall thereafter take all necessary or desirable action to cause such insurers to pay, on behalf of Indemnitee, all amounts payable as a result of such Proceeding in accordance with the terms of such policies.

(d) In the event of any payment under this Agreement, the Corporation shall not be subrogated to the rights of recovery of Indemnitee, including rights of indemnification provided to Indemnitee from any other person or entity with whom Indemnitee may be associated; provided, however, that the Corporation shall be subrogated to the extent of any such payment of all rights of recovery of Indemnitee under insurance policies of the Corporation or any of its subsidiaries.

(e) The indemnification and contribution provided for in this Agreement will remain in full force and effect regardless of any investigation made by or on behalf of Indemnitee.

Section 14 Duration of Agreement; Not Employment Contract. This Agreement shall continue until and terminate upon the latest of: (i) ten (10) years after the date that Indemnitee shall have ceased to serve as a director, officer, employee or agent of the Corporation or any other Enterprise, (ii) the date of final termination of any Proceeding then pending in respect of which Indemnitee is granted rights of indemnification or advancement hereunder and of any proceeding commenced by Indemnitee pursuant to Section 12 of this Agreement relating thereto or (iii) the expiration of all statutes of limitation applicable to possible Proceedings to which Indemnitee may be subject arising out of the Indemnitee's Corporate Status. The indemnification provided under this Agreement shall continue as to the Indemnitee even though he or she may have ceased to be a director of the Corporation or of any the Corporation's direct or indirect subsidiaries or to have Corporate Status. This Agreement shall be binding upon the Corporation and its successors and assigns and shall inure to the benefit of Indemnitee and Indemnitee's heirs, executors and administrators. This Agreement shall not be deemed an employment contract between the Corporation (or any of its subsidiaries or any other Enterprise) and Indemnitee. Indemnitee specifically acknowledges that Indemnitee's employment with the Corporation (or any of its subsidiaries or any other Enterprise), if any, is at will, and Indemnitee may be discharged at any time for any reason, with or without cause, except as may be otherwise provided in any written employment contract between Indemnitee and the Corporation (or any of its subsidiaries or any other Enterprise), other applicable formal severance policies duly adopted by the Board, or, with respect to service as a director of the Corporation, by the Certificate of Incorporation, the Bylaws or the DGCL.

Section 15 Severability. If any provision or provisions of this Agreement shall be held to be invalid, illegal or unenforceable for any reason whatsoever: (a) the validity, legality and enforceability of the remaining provisions of this Agreement (including, without limitation, each portion of any Section of this Agreement containing any such provision held to be invalid, illegal or unenforceable that is not itself invalid, illegal or unenforceable) shall not in any way be affected or impaired thereby and shall remain enforceable to the fullest extent permitted by applicable law; (b) such provision or provisions shall be deemed reformed to the extent necessary to conform to applicable law and to give the maximum effect to the intent of the parties hereto; and (c) to the fullest extent possible, the provisions of this Agreement (including, without limitation, each portion of any Section of this Agreement containing any such provision held to be invalid, illegal or unenforceable that is not itself invalid, illegal or unenforceable) shall be construed so as to give effect to the intent manifested thereby.

Section 16 Enforcement.

(a) The Corporation expressly confirms and agrees that it has entered into this Agreement and assumed the obligations imposed on it hereby in order to induce Indemnitee to serve as a director, officer, employee or agent of the Corporation, and the Corporation acknowledges that Indemnitee is relying upon this Agreement in serving as a director, officer, employee or agent of the Corporation.

(b) This Agreement constitutes the entire agreement between the parties hereto with respect to the subject matter hereof and supersedes all prior agreements and understandings, oral, written and implied, between the parties hereto with respect to the subject matter hereof; provided, however, that this Agreement is a supplement to and in furtherance of the Certificate of Incorporation, the Bylaws and applicable law, and shall not be deemed a substitute therefore, nor diminish or abrogate any rights of Indemnitee thereunder.

Section 17 Modification and Waiver. No supplement, modification or amendment of this Agreement shall be binding unless executed in writing by the parties thereto. No waiver of any of the provisions of this Agreement shall be deemed to be or shall constitute a waiver of any other provision of this Agreement nor shall any waiver constitute a continuing waiver.

Section 18 Notices. All notices, requests, demands and other communications under this Agreement shall be in writing and shall be deemed to have been duly given if (a) delivered by hand and receipted for by the party to whom said notice or other communication shall have been directed, (b) mailed by certified or registered mail with postage prepaid, on the third business day after the date on which it is so mailed, (c) mailed by reputable overnight courier and receipted for by the party to whom said notice or other communication shall have been directed or (d) sent by facsimile transmission, with receipt of oral confirmation that such transmission has been received:

(i) If to Indemnitee, at such address as Indemnitee shall provide to the Corporation.

(ii) If to the Corporation to:

Ramaco Resources, Inc.

250 West Main Street, Suite 210

Lexington, Kentucky 40507

Attention: Board of Directors

or to any other address as may have been furnished to Indemnitee by the Corporation.

Section 19 Contribution. To the fullest extent permissible under applicable law, if the indemnification provided for in this Agreement is unavailable to Indemnitee for any reason whatsoever, the Corporation, in lieu of indemnifying Indemnitee, shall contribute to the amount incurred by Indemnitee, whether for Liabilities or for Expenses, in connection with any claim relating to an indemnifiable event under this Agreement, in such proportion as is deemed fair and reasonable in light of all of the circumstances of such Proceeding in order to reflect (a) the relative benefits received by the Corporation and Indemnitee as a result of the event(s) and transaction(s) giving cause to such Proceeding; and (b) the relative fault of the Corporation (and its directors, officers, employees and agents) and Indemnitee in connection with such event(s) and transaction(s).

Section 20 Applicable Law. This Agreement and the legal relations among the parties shall be governed by, and construed and enforced in accordance with, the laws of the State of Delaware, without regard to its conflict of laws rules.

Section 21 Counterparts. This Agreement may be executed in one or more counterparts, each of which shall for all purposes be deemed to be an original but all of which together shall constitute one and the same Agreement. Only one such counterpart signed by the party against whom enforceability is sought needs to be produced to evidence the existence of this Agreement.

Section 22 Miscellaneous. Use of the masculine pronoun shall be deemed to include usage of the feminine pronoun where appropriate. The headings of the paragraphs of this Agreement are inserted for convenience only and shall not be deemed to constitute part of this Agreement or to affect the construction thereof.

IN WITNESS WHEREOF, the parties have caused this Agreement to be signed effective as of the day and year first above written.

RAMACO RESOURCES, INC.

By: _/s/ Randall W. Atkins_____
Name: Randall W. Atkins
Title: Executive Chairman

INDEMNITEE

By: _/s/ Trent Kosoki_____
Name: Trent Kososki

[Signature Page to Indemnification Agreement]

INDEMNIFICATION AGREEMENT

This Indemnification Agreement ("Agreement")
is dated as of February 18, 2020 and made effective as of June 25, 2019 (the "Effective Date"), by and between Ramaco Resources, Inc., a Delaware corporation (the "Corporation"), and C. Lynch Christian III ("Indemnitee").

RECITALS:

WHEREAS, directors, officers and other persons in service to corporations or business enterprises are subjected to expensive and time-consuming litigation relating to, among other things, matters that traditionally would have been brought only against the Corporation or business enterprise itself;

WHEREAS, highly competent persons have become more reluctant to serve as directors, officers or in other capacities unless they are provided with adequate protection through insurance and adequate indemnification against inordinate risks of claims and actions against them arising out of their service to and activities on behalf of the corporation;

WHEREAS, the Board of Directors of the Corporation (the "Board") has determined that the increased difficulty in attracting and retaining such persons is detrimental to the best interests of the Corporation and its stockholders and that the Corporation should act to assure such persons that there will be increased certainty of such protection in the future;

WHEREAS, (i) the Amended and Restated Bylaws of the Corporation (as may be amended, the "Bylaws") require indemnification of the officers and directors of the Corporation, (ii) Indemnitee may also be entitled to indemnification pursuant to the General Corporation Law of the State of Delaware ("DGCL") and (iii) the Bylaws and the DGCL expressly provide that the indemnification provisions set forth therein are not exclusive and thereby contemplate that contracts may be entered into between the Corporation and members of the Board, officers and other persons with respect to indemnification;

WHEREAS, this Agreement is a supplement to and in furtherance of the Bylaws and the Amended and Restated Certificate of Incorporation of the Corporation (as may be amended, the "Certificate of Incorporation") and any resolutions adopted pursuant thereto, and shall not be deemed a substitute therefore, nor to diminish or abrogate any rights of Indemnitee thereunder;

WHEREAS, (i) Indemnitee does not regard the protection available under the Bylaws and insurance as adequate in the present circumstances, (ii) Indemnitee may not be willing to serve or continue to serve as a director or officer of the Corporation without adequate protection, (iii) the Corporation desires Indemnitee to serve in such capacity, and (iv) Indemnitee is willing to serve, continue to serve and to take on additional service for or on behalf of the Corporation on the condition that he be so indemnified for the entire period that Indemnitee has served and continues to serve as a director or officer of the Corporation; and

WHEREAS, Indemnitee began serving as a director on the Board on the Effective Date.

AGREEMENT:

NOW, THEREFORE, in consideration of the premises and the covenants contained herein, the Corporation and Indemnitee do hereby covenant and agree as follows:

Section 1 As used in this Agreement:

"Affiliate" of any specified Person shall mean any other Person controlling, controlled by or under common control with such specified Person.

"Corporate Status" describes the status of a person who is or was a director, officer, employee or agent of (i) the Corporation or (ii) any other corporation, limited liability company, partnership or joint venture, trust, employee benefit plan or other enterprise which such person is or was serving at the request of the Corporation.

"Disinterested Director" shall mean a director of the Corporation who is not and was not a party to the Proceeding in respect of which indemnification is sought by Indemnitee.

"Enterprise" shall mean the Corporation and any other corporation, limited liability company, partnership, joint venture, trust, employee benefit plan or other enterprise of which Indemnitee is or was serving at the request of the Corporation as a director, officer, employee, agent or fiduciary.

"Exchange Act" shall mean the Securities Exchange Act of 1934, as amended.

"Expenses" shall mean all reasonable costs, expenses, fees and charges, including, without limitation, attorneys' fees, document and e-discovery costs, litigation expenses, retainers, court costs, transcript costs, fees of experts, witness fees, travel expenses, duplicating costs, printing and binding costs, telephone charges, postage, delivery service fees, and all other disbursements or expenses of the types customarily incurred in connection with prosecuting, defending, preparing to prosecute or defend, investigating, being or preparing to be a witness in, or otherwise participating in, a Proceeding. Expenses also shall include, without limitation, (i) expenses incurred in connection with any appeal resulting from, incurred by Indemnitee in connection with, arising out of, or in respect of or relating to, any Proceeding, including, without limitation, the premium, security for, and other costs relating to any cost bond, supersedes bond, or other appeal bond or its equivalent, (ii) for purposes of Section 12(d) hereof only, expenses incurred by Indemnitee in connection with the interpretation, enforcement or defense of Indemnitee's rights under this Agreement, by litigation or otherwise, (iii) any federal, state, local or foreign taxes imposed on Indemnitee as a result of the actual or deemed receipt of any payments under this Agreement, and (iv) any interest, assessments or other charges in respect of the foregoing. "Expenses" shall not include "Liabilities."

"Indemnity Obligations" shall mean all obligations of the Corporation to Indemnitee under this Agreement, including the Corporation's obligations to provide indemnification to Indemnitee and advance Expenses to Indemnitee under this Agreement.

"Independent Counsel" shall mean a law firm of fifty (50) or more attorneys, or a member of a law firm of fifty (50) or more attorneys, that is experienced in matters of corporation law and neither presently is, nor in the past five (5) years has been, retained to represent: (i) the Corporation or Indemnitee in any matter material to either such party (other than with respect to matters concerning Indemnitee under this Agreement, or of other indemnitees under similar indemnification agreements), or (ii) any other party to the Proceeding giving rise to a claim for indemnification hereunder; provided, however, that the term "Independent Counsel" shall not include any person who, under the applicable standards of professional conduct then prevailing, would have a conflict of interest in representing either the Corporation or Indemnitee in an action to determine Indemnitee's rights under this Agreement.

"Liabilities" shall mean all claims, liabilities, damages, losses, judgments, orders, fines, penalties and other amounts payable in connection with, arising out of, or in respect of or relating to any Proceeding, including, without limitation, amounts paid in settlement in any Proceeding and all costs and expenses in complying with any judgment, order or decree issued or entered in connection with any Proceeding or any settlement agreement, stipulation or consent decree entered into or issued in settlement of any Proceeding.

"Person" shall mean any individual, corporation, partnership, limited partnership, limited liability company, trust, governmental agency or body or any other legal entity.

"Proceeding" shall mean any threatened, pending or completed action, claim, suit, arbitration, alternate dispute resolution mechanism, formal or informal hearing, inquiry or investigation, litigation, inquiry, administrative hearing or any other actual, threatened or completed judicial, administrative or arbitration proceeding (including, without limitation, any such proceeding under the Securities Act of 1933, as amended, or the Exchange Act or any other federal law, state law, statute or regulation), whether brought in the right of the Corporation or otherwise, and whether of a civil, criminal, administrative or investigative nature, in each case, in which Indemnitee was, is or will be, or is threatened to be, involved as a party, witness or otherwise by reason of the fact that Indemnitee is or was a director or officer of the Corporation, by reason of any actual or alleged action taken by Indemnitee or of any action on Indemnitee's part while acting as director or officer of the Corporation, or by reason of the fact that he is or was serving at the request of the Corporation as a director, officer, employee or agent of another corporation, limited liability company, partnership, joint venture, trust or other enterprise, in each case whether or not serving in such

capacity at the time any liability or expense is incurred for which indemnification, reimbursement, or advancement can be provided under this Agreement

(a) For the purpose hereof, references to "fines" shall include any excise tax assessed with respect to any employee benefit plan; references to "serving at the request of the Corporation" shall include any service as a director, officer, employee or agent of the Corporation which imposes duties on, or involves services by, such director, officer, employee or agent with respect to an employee benefit plan, its participants or beneficiaries; and a Person who acted in good faith and in a manner he reasonably believed to be in the best interests of the participants and beneficiaries of an employee benefit plan shall be deemed to have acted in a manner "not opposed to the best interests of the Corporation" as referred to in this Agreement.

Section 2 Indemnity in Third-Party Proceedings. The Corporation shall indemnify and hold harmless Indemnitee, to the fullest extent permitted by applicable law, from and against all Liabilities and Expenses suffered or reasonably incurred (and, in the case of retainers, reasonably expected to be incurred) by Indemnitee or on Indemnitee's behalf in connection with any Proceeding (other than any Proceeding brought by or in the right of the Corporation to procure a judgment in its favor), or any claim, issue or matter therein.

Section 3 Indemnity in Proceedings by or in the Right of the Corporation. The Corporation shall indemnify and hold harmless Indemnitee, to the fullest extent permitted by applicable law, from and against all Liabilities and Expenses suffered or incurred by Indemnitee or on Indemnitee's behalf in connection with any Proceeding brought by or in the right of the Corporation to procure a judgment in its favor, or any claim, issue or matter therein. No indemnification for Liabilities and Expenses shall be made under this Section 3 in respect of any claim, issue or matter as to which Indemnitee shall have been finally adjudged by a court to be liable to the Corporation, unless and only to the extent that the Delaware Court of Chancery or any court in which the Proceeding was brought shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, Indemnitee is fairly and reasonably entitled to such indemnification.

Section 4 Indemnification for Expenses of a Party Who is Wholly or Partly Successful. Notwithstanding any other provisions of this Agreement, and without limiting the rights of Indemnitee under any other provision hereof, including any rights to indemnification pursuant to Sections 2 or 3 hereof, to the fullest extent permitted by applicable law, to the extent that Indemnitee is successful, on the merits or otherwise, in any Proceeding or in defense of any claim, issue or matter therein, in whole or in part, the Corporation shall indemnify Indemnitee against all Expenses actually and reasonably incurred by Indemnitee or on Indemnitee's behalf in connection with each successfully resolved Proceeding, claim, issue or matter. For purposes of this Section 4 and without limitation, the termination of any Proceeding or claim, issue or matter in such a Proceeding by dismissal, with or without prejudice, shall be deemed to be a successful result as to such claim, issue or matter.

Section 5 Indemnification For Expenses of a Witness. Notwithstanding any other provision of this Agreement, to the fullest extent permitted by applicable law and to the extent that Indemnitee is, by reason of Indemnitee's Corporate Status, a witness, or is made (or asked) to respond to discovery requests or a subpoena or similar demand for documents or testimony, in any Proceeding to which Indemnitee is not a party, Indemnitee shall be indemnified against all Expenses suffered or incurred (or, in the case of retainers, reasonably expected to be incurred) by Indemnitee or on Indemnitee's behalf in connection therewith.

Section 6 Additional Indemnification. Notwithstanding any limitation in Sections 2, 3 or 4 hereof, the Corporation shall indemnify Indemnitee to the fullest extent permitted by applicable law if Indemnitee is a party to or threatened to be made a party to any Proceeding (including a Proceeding by or in the right of the Corporation to procure a judgment in its favor) against all Liabilities and Expenses suffered or reasonably incurred by Indemnitee in connection with such Proceeding, including but not limited to:

(a) the fullest extent permitted by the provision of the DGCL that authorizes or contemplates additional indemnification by agreement, or the corresponding provision of any amendment to or replacement of the DGCL; and

(b) the fullest extent authorized or permitted by any amendments to or replacements of the DGCL adopted after the date of this Agreement that increase the extent to which a corporation may indemnify its officers and directors.

Section 7 Exclusions. Notwithstanding any provision in this Agreement, the Corporation shall not be obligated under this Agreement to indemnify or hold harmless Indemnitee:

(a) for which payment has actually been made to or on behalf of Indemnitee under any insurance policy obtained by the Corporation except with respect to any excess beyond the amount paid under such insurance policy;

(b) for an accounting of profits made from the purchase and sale (or sale and purchase) by Indemnitee of securities of the Corporation within the meaning of Section 16(b) of the Exchange Act or similar provisions of state statutory law or common law;

(c) for any reimbursement of the Corporation by Indemnitee of any bonus or other incentive-based or equity-based compensation or of any profits realized by Indemnitee from the sale of securities of the Corporation, as required in each case under the Exchange Act (including any such reimbursements that arise from an accounting restatement of the Corporation pursuant to Section 304 of the Sarbanes-Oxley Act of 2002 (the "***Sarbanes-Oxley Act***"), or the payment to the Corporation of profits arising from the purchase and sale by Indemnitee of securities in violation of Section 306 of the Sarbanes-Oxley Act), if Indemnitee is held liable therefor (including pursuant to any settlement arrangements) or in respect of claw-back provisions promulgated under the rules and regulations of the Securities and Exchange Commission pursuant to the Dodd-Frank Wall Street Reform and Consumer Protection Act; or

(d) except as provided in Section 12(d) of this Agreement, in connection with any Proceeding (or any part of any Proceeding) initiated by Indemnitee, including any Proceeding (or any part of any Proceeding) initiated by Indemnitee against the Corporation or its directors, officers, employees or other indemnitees, unless (i) the Board authorized the Proceeding (or any part of any Proceeding) prior to its initiation or (ii) the Corporation provides the indemnification, in its sole discretion, pursuant to the powers vested in the Corporation under applicable law; or

(e) if a final decision by a court having jurisdiction in the matter shall determine that such indemnification is not lawful.

Section 8 Advancement. In accordance with the pre-existing requirements of the Bylaws, and notwithstanding any provision of this Agreement to the contrary, the Corporation shall advance, to the extent not prohibited by applicable law, the Expenses reasonably incurred by Indemnitee in connection with any Proceeding, and such advancement shall be made within ten (10) days after the receipt by the Corporation of a statement or statements requesting such advances from time to time, whether prior to or after final disposition of any Proceeding. Advances shall be unsecured and interest free. Advances shall be made without regard to Indemnitee's ability to repay the Expenses and without regard to Indemnitee's ultimate entitlement to indemnification under the other provisions of this Agreement. Advances shall include any and all Expenses reasonably incurred pursuing an action to enforce this right of advancement, including Expenses incurred preparing and forwarding statements to the Corporation to support the advances claimed. Indemnitee shall qualify for advances upon the execution and delivery to the Corporation of this Agreement, which shall constitute an undertaking providing that Indemnitee undertakes to repay the amounts advanced to the extent that it is ultimately determined that Indemnitee is not entitled to be indemnified by the Corporation. This Section 8 shall not apply to any claim made by Indemnitee for which indemnity is excluded pursuant to Section 7 hereof.

Section 9 Procedure for Notification and Defense of Claim.

(a) Indemnitee shall promptly notify the Corporation in writing of any Proceeding with respect to which Indemnitee intends to seek indemnification or advancement hereunder following the receipt by Indemnitee of written notice thereof. The written notification to the Corporation shall include a description of the nature of the Proceeding and the facts underlying the Proceeding. To obtain indemnification under this Agreement, Indemnitee shall submit to the Corporation a written request, including therein or therewith such documentation and information as is reasonably available to Indemnitee and is reasonably necessary to determine whether and to what extent Indemnitee is entitled to indemnification following the final disposition of such Proceeding. Any delay or failure by Indemnitee to notify the Corporation hereunder will not relieve the Corporation from any liability which it may have to Indemnitee hereunder or otherwise than under this Agreement, and any delay or failure in so notifying the Corporation shall not constitute a waiver by Indemnitee of any rights under this Agreement. The Secretary of the Corporation shall, promptly upon receipt of such a request for indemnification, advise the Board in writing that Indemnitee has requested indemnification.

(b) In the event Indemnitee is entitled to indemnification and/or advancement with respect to any Proceeding, Indemnitee may, at Indemnitee's option, (i) retain counsel selected by Indemnitee and approved by the Corporation to defend Indemnitee in such Proceeding, at the sole expense of the Corporation (which approval shall not be unreasonably withheld, conditioned or delayed), or (ii) have the Corporation assume the defense of Indemnitee in such Proceeding, in which case the Corporation shall assume the defense of such Proceeding with counsel selected by the Corporation and approved by Indemnitee (which approval shall not be unreasonably withheld, conditioned or delayed) within ten (10) days of the Corporation's receipt of written notice of Indemnitee's election to cause the Corporation to do so. If the Corporation is required to assume the defense of any such Proceeding, it shall engage legal counsel for such defense, and the Corporation shall be solely responsible for all fees and expenses of such legal counsel and otherwise of such defense. Such legal counsel may represent both Indemnitee and the Corporation (and any other party or parties entitled to be indemnified by the Corporation with respect to such matter) unless, in the reasonable opinion of legal counsel to Indemnitee, there is a conflict of interest between Indemnitee and the Corporation (or any other such party or parties) or there are legal defenses available to Indemnitee that are not available to the Corporation (or any such other party or parties). Notwithstanding either party's assumption of responsibility for defense of a Proceeding, each party shall have the right to engage separate counsel at its own expense. The party having responsibility for defense of a Proceeding shall provide the other party and its counsel with all copies of pleadings and material correspondence relating to the Proceeding. Indemnitee and the Corporation shall reasonably cooperate in the defense of any Proceeding with respect to which indemnification is sought hereunder, regardless of whether the Corporation or Indemnitee assumes the defense thereof. Indemnitee may not settle or compromise any Proceeding without the prior written consent of the Corporation, which consent shall not be unreasonably withheld, conditioned or delayed. The Corporation may not settle or compromise any Proceeding without the prior written consent of Indemnitee.

Section 10 Procedure Upon Application for Indemnification.

(a) Upon written request by Indemnitee for indemnification pursuant to Section 9(a) hereof, if any determination by the Corporation is required by applicable law with respect to Indemnitee's entitlement thereto, such determination shall be made (i) if Indemnitee shall request such determination be made by Independent Counsel, by Independent Counsel, and (ii) in all other circumstances, (A) by a majority vote of the Disinterested Directors, even though less than a quorum of the Board, (B) by a committee of Disinterested Directors designated by a majority vote of the Disinterested Directors, even though less than a quorum of the Board, (C) if there are no such Disinterested Directors or, if such Disinterested Directors so direct, by Independent Counsel in a written opinion to the Board, a copy of which shall be delivered to Indemnitee, or (D) if so directed by the Board, by the stockholders of the Corporation; and, if it is so determined that Indemnitee is entitled to indemnification, payment to Indemnitee shall be made within ten (10) days after such determination. Indemnitee shall cooperate with the person, persons or entity making such determination with respect to Indemnitee's entitlement to indemnification, including providing to such person, persons or entity upon reasonable advance request any documentation or information which is not privileged or otherwise protected from disclosure and which is reasonably available to Indemnitee and reasonably necessary to such determination. Any Expenses incurred by Indemnitee in so cooperating with the person, persons or entity making such determination shall be borne by the Corporation (irrespective of the determination as to Indemnitee's entitlement to indemnification) and the Corporation hereby indemnifies and agrees to hold Indemnitee harmless therefrom. The Corporation will not deny any written request for indemnification hereunder made in good faith by Indemnitee unless a determination as to Indemnitee's entitlement to such indemnification described in this Section 10(a) has been made. The Corporation agrees to pay the reasonable fees and expenses of the Independent Counsel referred to above and to fully indemnify such counsel against any and all Liabilities and Expenses arising out of or relating to this Agreement or its engagement pursuant hereto.

(b) In the event the determination of entitlement to indemnification is to be made by Independent Counsel pursuant to Section 10(a) hereof, (i) the Independent Counsel shall be selected by the Corporation within ten (10) days of the Submission Date (the cost of such Independent Counsel to be paid by the Corporation), (ii) the Corporation shall give written notice to Indemnitee advising it of the identity of the Independent Counsel so selected and (iii) Indemnitee may, within ten (10) days after such written notice of selection shall have been given, deliver to the Corporation Indemnitee's written objection to such selection. Such objection by Indemnitee may be asserted only on the ground that the Independent Counsel selected does not meet the requirements of "Independent Counsel" as defined in this Agreement. If such written objection is made and substantiated, the Independent Counsel selected shall not serve as Independent Counsel unless and until Indemnitee withdraws the objection or a court has determined that such

objection is without merit. Absent a timely objection, the person so selected shall act as Independent Counsel. If no Independent Counsel shall have been selected and not objected to before the later of (i) thirty (30) days after the later of submission by Indemnitee of a written request for indemnification pursuant to Section 10(a) hereof (the "Submission Date") and (ii) ten (10) days after the final disposition of the Proceeding, each of the Corporation and Indemnitee shall select a law firm or member of a law firm meeting the qualifications to serve as Independent Counsel, and such law firms or members of law firms shall select the Independent Counsel. Upon the due commencement of any judicial proceeding or arbitration pursuant to Section 12(a) of this Agreement, Independent Counsel shall be discharged and relieved of any further responsibility in such capacity (subject to the applicable standards of professional conduct then prevailing).

Section 11 Presumptions and Effect of Certain Proceedings.

(a) In making a determination with respect to entitlement to indemnification hereunder, the person, persons or entity making such determination shall, to the fullest extent not prohibited by applicable law, presume that Indemnitee is entitled to indemnification under this Agreement if Indemnitee has submitted a request for indemnification in accordance with Section 9(a) of this Agreement, and the Corporation shall, to the fullest extent not prohibited by applicable law, have the burden of proof to overcome that presumption in connection with the making by any person, persons or entity of any determination contrary to that presumption. Neither the failure of the Corporation (including by its directors or independent legal counsel) to have made a determination prior to the commencement of any action pursuant to this Agreement that indemnification is proper in the circumstances because Indemnitee has met the applicable standard of conduct, nor an actual determination by the Corporation (including by its directors or independent legal counsel) that Indemnitee has not met such applicable standard of conduct, shall be a defense to the action or create a presumption that Indemnitee has not met the applicable standard of conduct.

(b) Subject to Section 12(e) hereof, if the person, persons or entity empowered or selected under Section 10 of this Agreement to determine whether Indemnitee is entitled to indemnification shall not have made a determination within sixty (60) days after receipt by the Corporation of the request therefore, the requisite determination of entitlement to indemnification shall, to the fullest extent not prohibited by applicable law, be deemed to have been made and Indemnitee shall be entitled to such indemnification, absent a prohibition of such indemnification under applicable law; provided, however, that such 60-day period may be extended for a reasonable time, not to exceed an additional thirty (30) days, if (i) the determination is to be made by Independent Counsel and Indemnitee objects to the Corporation's selection of Independent Counsel and (ii) the Independent Counsel ultimately selected requires such additional time for the obtaining or evaluating of documentation or information relating thereto; provided further, however, that such 60-day period may also be extended for a reasonable time, not to exceed an additional sixty (60) days, if the determination of entitlement to indemnification is to be made by the stockholders of the Corporation.

(c) The termination of any Proceeding or of any claim, issue or matter therein, by judgment, order, settlement or conviction, or upon a plea of nolo contendere or its equivalent, shall not (except as otherwise expressly provided in this Agreement) adversely affect the right of Indemnitee to indemnification or create a presumption that Indemnitee did not act in good faith and in a manner which he reasonably believed to be in or not opposed to the best interests of the Corporation or, with respect to any criminal Proceeding, that Indemnitee had reasonable cause to believe that Indemnitee's conduct was unlawful.

(d) Reliance as Safe Harbor. For purposes of any determination of good faith, Indemnitee shall be deemed to have acted in good faith if Indemnitee's action is based on the records or books of account of the Enterprise, including financial statements, or on information supplied to Indemnitee by the officers of the Enterprise in the course of their duties, or on the advice of legal counsel for the Enterprise or on information or records given or reports made to the Enterprise by an independent certified public accountant or by an appraiser or other expert selected with the reasonable care by the Enterprise. The provisions of this Section 11(d) shall not be deemed to be exclusive or to limit in any way the other circumstances in which Indemnitee may be deemed to have met the applicable standard of conduct set forth in this Agreement.

(e) Actions of Others. The knowledge or actions, or failure to act, of any director, officer, agent or employee of the Enterprise shall not be imputed to Indemnitee for purposes of determining the right to indemnification under this Agreement.

Section 12 Remedies of Indemnitee.

(a) Subject to Section 12(e) hereof, in the event that (i) a determination is made pursuant to Section 10 of this Agreement that Indemnitee is not entitled to indemnification under this Agreement, (ii) advancement is not timely made pursuant to Section 8 of this Agreement, (iii) no determination of entitlement to indemnification shall have been made pursuant to Section 10(a) of this Agreement within ninety (90) days after receipt by the Corporation of the request for indemnification, (iv) payment of indemnification is not made pursuant to Sections 4 or 5 or the last sentence of Section 10(a) of this Agreement within ten (10) days after receipt by the Corporation of a written request therefor, (v) payment of indemnification pursuant to Sections 2, 3 or 6 of this Agreement is not made within ten (10) days after a determination has been made that Indemnitee is entitled to indemnification, or (vi) in the event that the Corporation or any other Person takes or threatens to take any action to declare this Agreement void or unenforceable, or institutes any litigation or other action or proceeding designed to deny, or to recover from, Indemnitee the benefits provided or intended to be provided to Indemnitee hereunder, Indemnitee shall be entitled to an adjudication by a court of Indemnitee's entitlement to such indemnification or advancement. Alternatively, Indemnitee, at Indemnitee's option, may seek an award in arbitration to be conducted by a single arbitrator pursuant to the Commercial Arbitration Rules of the American Arbitration Association. The Corporation shall not oppose Indemnitee's right to seek any such adjudication or award in arbitration.

(b) In the event that a determination shall have been made pursuant to Section 10(a) of this Agreement that Indemnitee is not entitled to indemnification, any judicial proceeding or arbitration commenced pursuant to this Section 12 shall be conducted in all respects as a de novo trial, or arbitration, on the merits and Indemnitee shall not be prejudiced by reason of that adverse determination. In any judicial proceeding or arbitration commenced pursuant to this Section 12 the Corporation shall have the burden of proving Indemnitee is not entitled to indemnification or advancement, as the case may be.

(c) If a determination shall have been made pursuant to Section 10(a) of this Agreement that Indemnitee is entitled to indemnification, the Corporation shall be bound by such determination in any judicial proceeding or arbitration commenced pursuant to this Section 12, absent a prohibition of such indemnification under applicable law.

(d) The Corporation shall, to the fullest extent not prohibited by applicable law, be precluded from asserting in any judicial proceeding or arbitration commenced pursuant to this Section 12 that the procedures and presumptions of this Agreement are not valid, binding and enforceable and shall stipulate in any such court or before any such arbitrator that the Corporation is bound by all the provisions of this Agreement. It is the intent of the Corporation that Indemnitee not be required to incur Expenses associated with the interpretation, enforcement or defense of Indemnitee's rights under this Agreement by litigation or otherwise because the cost and expense thereof would substantially detract from the benefits intended to be extended to Indemnitee hereunder. The Corporation shall indemnify Indemnitee against any and all such Expenses and, if requested by Indemnitee, shall (within ten (10) days after receipt by the Corporation of a written request therefore) advance, to the extent not prohibited by applicable law, such Expenses to Indemnitee, which are incurred by Indemnitee in connection with any action brought by Indemnitee for indemnification or advancement from the Corporation under this Agreement or under any directors' and officers' liability insurance policies maintained by the Corporation, regardless of whether Indemnitee ultimately is determined to be entitled to such indemnification, advancement or insurance recovery, as the case may be.

(e) Notwithstanding anything in this Agreement to the contrary, no determination as to entitlement to indemnification under this Agreement shall be required to be made prior to the final disposition of the Proceeding; provided that, in absence of any such determination with respect to such Proceeding, the Corporation shall advance Expenses with respect to such Proceeding.

Section 13 Non-Exclusivity; Survival of Rights; Insurance; Subrogation.

(a) The rights of indemnification and to receive advancement as provided by this Agreement shall not be deemed exclusive of any other rights to which Indemnitee may at any time be entitled under applicable law, the Certificate of Incorporation, the Bylaws, any agreement, a vote of stockholders or a resolution of directors, or otherwise. No amendment, alteration or repeal of this Agreement or of any provision hereof shall limit or restrict any right of Indemnitee under this Agreement in respect of any action taken or omitted by such Indemnitee in Indemnitee's Corporate Status prior to such amendment, alteration or repeal. To the extent that a change in Delaware law, whether

by statute or judicial decision, permits greater indemnification or advancement than would be afforded currently under the Bylaws or this Agreement, it is the intent of the parties hereto that Indemnitee shall enjoy by this Agreement the greater benefits so afforded by such change. No right or remedy herein conferred is intended to be exclusive of any other right or remedy, and every other right and remedy shall be cumulative and in addition to every other right and remedy given hereunder or now or hereafter existing at law or in equity or otherwise. The assertion or employment of any right or remedy hereunder, or otherwise, shall not prevent the concurrent assertion or employment of any other right or remedy.

(b) The Corporation hereby acknowledges that Indemnitee may have certain rights to indemnification, advancement and insurance provided by one or more Persons with whom or which Indemnitee may be associated. The Corporation hereby acknowledges and agrees that (i) the Corporation shall be the indemnitor of first resort with respect to any Proceeding, Expense, Liability or matter that is the subject of the Indemnity Obligations, (ii) the Corporation shall be primarily liable for all Indemnity Obligations and any indemnification afforded to Indemnitee in respect of any Proceeding, Expense, Liability or matter that is the subject of Indemnity Obligations, whether created by applicable law, organizational or constituent documents, contract (including this Agreement) or otherwise, (iii) any obligation of any other Persons with whom or which Indemnitee may be associated to indemnify Indemnitee or advance Expenses or Liabilities to Indemnitee in respect of any Proceeding shall be secondary to the obligations of the Corporation hereunder, (iv) the Corporation shall be required to indemnify Indemnitee and advance Expenses or Liabilities to Indemnitee hereunder to the fullest extent provided herein without regard to any rights Indemnitee may have against any other Person with whom or which Indemnitee may be associated or insurer of any such Person and (v) the Corporation irrevocably waives, relinquishes and releases any other Person with whom or which Indemnitee may be associated from any claim of contribution, subrogation or any other recovery of any kind in respect of amounts paid by the Corporation hereunder. In the event any other Person with whom or which Indemnitee may be associated or their insurers advances or extinguishes any liability or loss which is the subject of any Indemnity Obligation owed by the Corporation or payable under any Corporation insurance policy, the payor shall have a right of subrogation against the Corporation or its insurer or insurers for all amounts so paid which would otherwise be payable by the Corporation or its insurer or insurers under this Agreement. In no event will payment of an Indemnity Obligation by any other Person with whom or which Indemnitee may be associated or their insurers affect the obligations of the Corporation hereunder or shift primary liability for any Indemnity Obligation to any other Person with whom or which Indemnitee may be associated. Any indemnification, insurance or advancement provided by any other Person with whom or which Indemnitee may be associated with respect to any Liability arising as a result of Indemnitee's Corporate Status or capacity as an officer or director of any Person is specifically in excess over any Indemnity Obligation of the Corporation or any collectible insurance (including but not limited to any malpractice insurance or professional errors and omissions insurance) provided by the Corporation under this Agreement.

(c) The Corporation shall maintain an insurance policy or policies providing liability insurance providing reasonable and customary coverage as compared with similarly situated companies (as determined by the Board in its reasonable discretion) for directors, officers, employees, or agents of the Corporation or of any other Enterprise, and Indemnitee shall be covered by such policy or policies in accordance with its or their terms to the maximum extent of the coverage available for any such director, officer, employee or agent under such policy or policies and such policies shall provide for and recognize that the insurance policies are primary to any rights to indemnification, advancement or insurance proceeds to which Indemnitee may be entitled from one or more Persons with whom or which Indemnitee may be associated to the same extent as the Corporation's indemnification and advancement obligations set forth in this Agreement. If, at the time of the receipt of a notice of a claim pursuant to the terms hereof, the Corporation has director and officer liability insurance in effect, the Corporation shall give prompt notice of the commencement of such Proceeding to the insurers in accordance with the procedures set forth in the respective policies. The Corporation shall thereafter take all necessary or desirable action to cause such insurers to pay, on behalf of Indemnitee, all amounts payable as a result of such Proceeding in accordance with the terms of such policies.

(d) In the event of any payment under this Agreement, the Corporation shall not be subrogated to the rights of recovery of Indemnitee, including rights of indemnification provided to Indemnitee from any other person or entity with whom Indemnitee may be associated; provided, however, that the Corporation shall be subrogated to the extent of any such payment of all rights of recovery of Indemnitee under insurance policies of the Corporation or any of its subsidiaries.

(e) The indemnification and contribution provided for in this Agreement will remain in full force and effect regardless of any investigation made by or on behalf of Indemnitee.

Section 14 Duration of Agreement; Not Employment Contract. This Agreement shall continue until and terminate upon the latest of: (i) ten (10) years after the date that Indemnitee shall have ceased to serve as a director, officer, employee or agent of the Corporation or any other Enterprise, (ii) the date of final termination of any Proceeding then pending in respect of which Indemnitee is granted rights of indemnification or advancement hereunder and of any proceeding commenced by Indemnitee pursuant to Section 12 of this Agreement relating thereto or (iii) the expiration of all statutes of limitation applicable to possible Proceedings to which Indemnitee may be subject arising out of the Indemnitee's Corporate Status. The indemnification provided under this Agreement shall continue as to the Indemnitee even though he or she may have ceased to be a director of the Corporation or of any the Corporation's direct or indirect subsidiaries or to have Corporate Status. This Agreement shall be binding upon the Corporation and its successors and assigns and shall inure to the benefit of Indemnitee and Indemnitee's heirs, executors and administrators. This Agreement shall not be deemed an employment contract between the Corporation (or any of its subsidiaries or any other Enterprise) and Indemnitee. Indemnitee specifically acknowledges that Indemnitee's employment with the Corporation (or any of its subsidiaries or any other Enterprise), if any, is at will, and Indemnitee may be discharged at any time for any reason, with or without cause, except as may be otherwise provided in any written employment contract between Indemnitee and the Corporation (or any of its subsidiaries or any other Enterprise), other applicable formal severance policies duly adopted by the Board, or, with respect to service as a director of the Corporation, by the Certificate of Incorporation, the Bylaws or the DGCL.

Section 15 Severability. If any provision or provisions of this Agreement shall be held to be invalid, illegal or unenforceable for any reason whatsoever: (a) the validity, legality and enforceability of the remaining provisions of this Agreement (including, without limitation, each portion of any Section of this Agreement containing any such provision held to be invalid, illegal or unenforceable that is not itself invalid, illegal or unenforceable) shall not in any way be affected or impaired thereby and shall remain enforceable to the fullest extent permitted by applicable law; (b) such provision or provisions shall be deemed reformed to the extent necessary to conform to applicable law and to give the maximum effect to the intent of the parties hereto; and (c) to the fullest extent possible, the provisions of this Agreement (including, without limitation, each portion of any Section of this Agreement containing any such provision held to be invalid, illegal or unenforceable that is not itself invalid, illegal or unenforceable) shall be construed so as to give effect to the intent manifested thereby.

Section 16 Enforcement.

(a) The Corporation expressly confirms and agrees that it has entered into this Agreement and assumed the obligations imposed on it hereby in order to induce Indemnitee to serve as a director, officer, employee or agent of the Corporation, and the Corporation acknowledges that Indemnitee is relying upon this Agreement in serving as a director, officer, employee or agent of the Corporation.

(b) This Agreement constitutes the entire agreement between the parties hereto with respect to the subject matter hereof and supersedes all prior agreements and understandings, oral, written and implied, between the parties hereto with respect to the subject matter hereof; provided, however, that this Agreement is a supplement to and in furtherance of the Certificate of Incorporation, the Bylaws and applicable law, and shall not be deemed a substitute therefore, nor diminish or abrogate any rights of Indemnitee thereunder.

Section 17 Modification and Waiver. No supplement, modification or amendment of this Agreement shall be binding unless executed in writing by the parties thereto. No waiver of any of the provisions of this Agreement shall be deemed to be or shall constitute a waiver of any other provision of this Agreement nor shall any waiver constitute a continuing waiver.

Section 18 Notices. All notices, requests, demands and other communications under this Agreement shall be in writing and shall be deemed to have been duly given if (a) delivered by hand and receipted for by the party to whom said notice or other communication shall have been directed, (b) mailed by certified or registered mail with postage prepaid, on the third business day after the date on which it is so mailed, (c) mailed by reputable overnight courier and receipted for by the party to whom said notice or other communication shall have been directed or (d) sent by facsimile transmission, with receipt of oral confirmation that such transmission has been received:

(i) If to Indemnitee, at such address as Indemnitee shall provide to the Corporation.

(ii) If to the Corporation to:

Ramaco Resources, Inc.

250 West Main Street, Suite 210

Lexington, Kentucky 40507

Attention: Board of Directors

or to any other address as may have been furnished to Indemnitee by the Corporation.

Section 19 Contribution. To the fullest extent permissible under applicable law, if the indemnification provided for in this Agreement is unavailable to Indemnitee for any reason whatsoever, the Corporation, in lieu of indemnifying Indemnitee, shall contribute to the amount incurred by Indemnitee, whether for Liabilities or for Expenses, in connection with any claim relating to an indemnifiable event under this Agreement, in such proportion as is deemed fair and reasonable in light of all of the circumstances of such Proceeding in order to reflect (a) the relative benefits received by the Corporation and Indemnitee as a result of the event(s) and transaction(s) giving cause to such Proceeding; and (b) the relative fault of the Corporation (and its directors, officers, employees and agents) and Indemnitee in connection with such event(s) and transaction(s).

Section 20 Applicable Law. This Agreement and the legal relations among the parties shall be governed by, and construed and enforced in accordance with, the laws of the State of Delaware, without regard to its conflict of laws rules.

Section 21 Counterparts. This Agreement may be executed in one or more counterparts, each of which shall for all purposes be deemed to be an original but all of which together shall constitute one and the same Agreement. Only one such counterpart signed by the party against whom enforceability is sought needs to be produced to evidence the existence of this Agreement.

Section 22 Miscellaneous. Use of the masculine pronoun shall be deemed to include usage of the feminine pronoun where appropriate. The headings of the paragraphs of this Agreement are inserted for convenience only and shall not be deemed to constitute part of this Agreement or to affect the construction thereof.

IN WITNESS WHEREOF, the parties have caused this Agreement to be signed effective as of the day and year first above written.

RAMACO RESOURCES, INC.

By: _/s/ Randall W. Atkins_____
Name: Randall W. Atkins
Title: Executive Chairman

INDEMNITEE

By: _/s/ C. Lynch Christian III_____
Name:
C. Lynch Christian III

[Signature Page to Indemnification Agreement]

Promissory Note

Floating Rate

Funding Date: November 22, 2019

FOR VALUE RECEIVED, RAMACO RESOURCES, INC., a Delaware corporation; RAMACO DEVELOPMENT, LLC, a Delaware limited liability company; RAM MINING, LLC, a Delaware limited liability company; RAMACO COAL SALES, LLC, a Delaware limited liability company; RAMACO RESOURCES, LLC, a Delaware limited liability company; and RAMACO RESOURCES LAND HOLDINGS, LLC, a Delaware limited liability company (collectively as "Maker"), promises to pay to the order of **KEY EQUIPMENT FINANCE, A DIVISION OF KEYBANK NATIONAL ASSOCIATION**, ("Holder"), the sum of $10,000,000.00 in lawful money of the United States of America (the "Principal"), with interest thereon as hereafter provided ("Interest"), to be paid in the manner set forth herein.

1. **Relationship to Master Security Agreement.** This Note is secured by the Master Security Agreement dated as of November 15, 2019 and Collateral Schedule No. 01 dated as of November 15, 2019 thereto (together, the "Master Security Agreement"), and all terms and conditions contained therein are incorporated herein by reference. Capitalized terms used herein without definition shall have the meaning given them in the Master Security Agreement. Maker reaffirms all terms, conditions, representations and warranties contained in the Master Security Agreement except as they may be modified hereby.

2. **Definitions.** For purposes hereof, the following terms shall have these meanings:

(a) "Business Day" shall mean any day on which commercial banks are open for international business (including dealings in United States dollar deposits in the London interbank Eurodollar market) in London, England.

(b) "Index Rate" shall mean the LIBOR rate which is published on Bloomberg Screen, BBAM1 (or any successor as may replace such page in said service for the purposes of display of the interbank interest rates offered on the London market) two (2) Business Days prior to the commencement of the Interest Period; provided, however, if such rate is not available, "Index Rate" shall mean either (i) the rate of interest per annum determined by Lender to be the average rate per annum at which United States dollar deposits in a similar amount are offered for such Interest Period by major banks in the London interbank deposit market two (2) Business Days prior to the commencement of the Interest Period or (ii) a similar rate based upon a comparable index chosen by Holder in its sole discretion.

(c) "Interest Period" shall mean the one (1) month period commencing on the first day of each month; provided, however, that unless the Funding Date is the first of a month, the first Interest Period hereunder shall commence on the Funding Date and continue until the day preceding the first day of the first month following the Funding

3. **Interest Rate.** (a) Interest on the balance of the Principal outstanding on this Note shall accrue from the Funding Date of this Note and stall be due and payable at a rate per annum equal to the Index Rate for the Interest Period plus 515 basis points (the "Merest Rate").

(b) Maker shall pay Interest, calculated on the basis of a 360-day year, on the outstanding Principal amount from and including the Funding Date to, but not including, the date the outstanding Principal amount is paid in full. Upon request, Holder shall give prompt notice to Maker of the Index Rate as determined and adjusted herein, which determination shall be conclusive absent manifest error.

(c) Except as otherwise provided in the definition of Interest Period, each Interest Period shall commence on the first day of each month and end on the last day of the Interest Period; provided, however, that (i) each subsequent Interest Period, to the extent applicable, shall commence automatically and immediately following the last day of the preceding Interest Period for the same duration; and (ii) any Interest Period that would otherwise end on a day which is not a Business Day shall be extended to the next Business Day unless such day falls in the next calendar month in which case the Interest Period shall end on the next preceding Business Day.

4. **Usury; Place of Payment.** (a) Holder does not intend to charge any amount in excess of the maximum amount of time price differential or interest, as applicable, permitted to be charged or collected by applicable law and any such excess amounts will be applied to payments due under this Note, in inverse order of maturity, with any surplus refunded to Maker.

(b) Payment of the Principal and Interest hereunder shall be made to Holder at 1000 S. McCaslin Blvd., Superior, CO 80027, or at such other place as Holder may designate from time to time in writing. Holder reserves the right to require payment on this Note to be made by wired federal funds or other immediately available funds.

5. **Repayment Terms.** On the date hereof, Maker shall pay Interest to Holder for the period from the Funding Date through and including the last day of the month in which the Funding Date occurs. Maker shall repay the outstanding balance of this Note in 36 consecutive month payments of Principal in the amount of $277,777.78 plus accrued interest at the Interest Rate, commencing on the first day of the first month following the Funding Date and continuing on the same day of each month thereafter (each a "Note Payment Date"). Interest shall be due, in arrears, on the last day of the applicable Interest Period. In addition, Maker will pay a late payment charge of five percent (5%) of any payment due hereunder that is not paid on or before the date due hereunder.

6. **Prepayment.** Borrower may prepay, in whole but not in part, the Principal outstanding hereunder together with accrued and unpaid Interest thereon at the Interest Rate in effect on the Funding Date, plus a prepayment premium equal to five percent of such outstanding Principal.

7. **Application of Payments.** Prior to Default, each payment received on this Note shall be applied in the following order: (a) all costs of collection, (b) any unpaid late payment charges, (c) any Prepayment Premium, (d) Interest accrued as of the payment date and (e) the balance, if any, to outstanding Principal as of the date received. Upon the occurrence and during the continuance of a Default, any payments in respect of the Secured Obligations and any proceeds of the Collateral when received by Holder in cash or its equivalent, will be applied first to costs of collection and, thereafter, in reduction of the Secured Obligations in such order and manner as Holder may direct in its sole discretion. Maker irrevocably waives the right to direct the application of such payments and proceeds and acknowledges and agrees that Holder shall have the continuing and exclusive right to apply any and all such payments and proceeds in the Holder's sole discretion, notwithstanding any entry to the contrary upon any of its books and records.

8. **Security.** Payment of the Principal and Interest hereunder, and the performance and observance by Maker of all agreements, covenants and provisions contained herein, is secured by a first priority security interest In the Collateral.

9. **General.** Maker represents and warrants that this Note evidences a loan for business or commercial purposes. By executing this Note, Maker confirms (a) having read and understood the provisions hereof and (b) Maker's agreement with all terms and conditions contained herein.

10. **Waivers. MAKER AND ALL ENDORSERS, SURETIES, AND GUARANTOR 'HEREOF HEREBY JOINTLY AND SEVERALLY WAIVE PRESENTMENT FOR PAYMENT, DEMAND, NOTICE OF .40N-PAYMENT OR DISHONOR, NOTICE OF INTENTION TO ACCELERATE THE MATURITY, NOTICE OF PROTEST AND PROTEST OF THIS NOTE.**

11. **Funding Date.** The Funding Date for this Note shall be the date on which Holder disburses funds hereunder. **IF THE FUNDING DATE IS LEFT BLANK, OR DOES NOT REFLECT THE ACTUAL DATE HOLDER DISBURSES FUNDS HEREUNDER, MAKER HEREBY AUTHORIZES HOLDER TO FILL IN THE CORRECT DATE AT THE TIME OF DISBURSEMENT.**

IN WITNESS WHEREOF, Maker, intending to be legally bound, has caused this Note to be duly executed on the day and year first written above.

MAKER:

RAMACO RESOURCES, INC.

RAMACO DEVELOPMENT, LLC

RAM MINING, LLC

RAMACO COAL SALES, LLC

RAMACO RESOURCES, LLC

RAMACO RESOURCES LAND HOLDINGS, LLC

By /s/ Randall W. Atkins

Name: Randall W. Atkins

Title: Executive Chairman

ATTACHMENT:

Collateral Schedule: This Note is secured by Collateral Schedule No. 01 dated as of November 15, 2019 to the Master Security Agreement

Master Security Agreement

THIS MASTER SECURITY AGREEMENT (this "Agreement") dated as of November 15, 2019 is made by and between **RAMACO RESOURCES, INC.,** a Delaware corporation; **RAMACO DEVELOPMENT, LLC,** a Delaware limited liability company; **RAM MINING, LLC,** a Delaware limited liability company; **RAMACO COAL SALES, LLC,** a Delaware limited liability company; **RAMACO RESOURCES, LLC,** a Delaware limited liability company; and **RAMACO RESOURCES LAND HOLDINGS, LLC,** a Delaware limited liability company, each having its chief executive office at 250 W Main St, Ste 1800, Lexington, Kentucky 40507 (collectively as "Borrower"), and **KEY EQUIPMENT FINANCE, A DIVISION OF KEYBANK NATIONAL ASSOCIATION,** having an office at 66 South Pearl Street, Albany, NY 12207 ("KEF").

Financing. This Agreement provides terms and conditions that the parties intend to apply to various loan transactions secured by personal property. Each such loan transaction shall be evidenced by (a) a Collateral Schedule that explicitly incorporates the provisions of this Agreement and that sets forth the description of the specific collateral securing Borrower's obligations to KEF ("Collateral Schedule") and (b) a Promissory Note evidencing the amount to be repaid by Borrower to KEF ("Note").

Definitions. Unless the context otherwise requires, as used in this Agreement the following terms shall have the respective meanings indicated below and shall be equally applicable to both the singular and the plural forms thereof. Any term used in this Agreement and not defined herein shall have the meaning provided in the Uniform Commercial Code ("UCC") in effect in the State identified in Section 21 below.

"Collateral" means the Equipment and any other property described on a Collateral Schedule, all substitutions, replacements or exchanges therefor, and all proceeds (both cash and non-cash and including insurance proceeds) receivable or received from the sale, lease, license, collection, use, exchange or other disposition of the Collateral.

"Default Rate" means the lesser of eighteen percent per annum or the maximum rate permitted by law.

"Equipment" means each item of property designated from time to time by Borrower and financed by KEF which is described on a Collateral Schedule, together with all replacement parts, accessions, additions and accessories incorporated therein or affixed thereto including, without limitation, any software that is a component or integral part of, or is included or used in connection with, any item of Equipment, but with respect to such software, only to the extent of Borrower's interest therein, if any.

"Guarantor" means any guarantor of the Secured Obligations.

"Installment(s)" means the periodic payments due to repay each Note, and, where the context requires, all additional amounts as may from time to time be payable under any provision of the Loan Documents.

"Loan Documents" means, with respect to each loan transaction, collectively, this Agreement, a Note, a Certificate of Acceptance, a Collateral Schedule and all other documents prepared by KEF and now or hereafter executed in connection therewith.

"Permitted Encumbrances" means a statutory or landlord's liens under any lease of real property that have been subordinated to KEF or arising in the ordinary course of Borrower's business with respect to obligations which are not more than 60 days past due or which are being contested in good faith by the applicable Borrower *provided that,* in KEF's absolute opinion, no part of any Collateral or any interest therein would be in danger of being sold, foreclosed, forfeited or lost and at no time during the permitted contest shall there be, in KEF's absolute opinion, a risk of the imposition of criminal liability or civil liability on KEF.

"Secured Obligations" means all of the following obligations of Borrower, whether direct or indirect, absolute or contingent, matured or unmatured, originally contracted with KEF or another party, and now or hereafter owing to or acquired in any manner partially or totally by KEF or in which KEF may have acquired a participation, contracted by Borrower alone or jointly or severally: (a) Borrower's obligations hereunder and under the Notes, (b) any and all indebtedness, obligations, liabilities, contracts, indentures, agreements, warranties, covenants, guaranties, representations, provisions, terms, and conditions of whatever kind, now existing or hereafter arising, and however evidenced, that are now or hereafter owed, incurred or executed by Borrower to, in favor of, or with KEF, and including any partial or total extension, restatement, renewal, amendment, and substitution thereof or therefor; (c) any and all claims of whatever kind of KEF against Borrower, now existing or hereafter arising; and (d) any and all of KEF's fees, costs and expenses related to the foregoing.

"Supplier" means the manufacturer or the vendor of the Equipment, as set forth on each Collateral Schedule.

"Term" means the term of each Note.

Grant of Security. In consideration of one or more loans, advances or other financial accommodations at any time made or extended by KEF to or for the account of Borrower, and to secure the prompt payment and performance in full when due of the Secured Obligations, Borrower hereby pledges, assigns, transfers and hypothecates to KEF and grants to KEF a continuing security interest in, all of Borrower's right, title and interest in and to the Collateral.

Perfection of Security Interest. Borrower hereby authorizes KEF to authenticate and/or file all UCC financing statements and amendments that in KEF's sole discretion are deemed necessary or proper to secure or protect KEF's interest in the Collateral in all applicable jurisdictions. Borrower hereby ratifies, to the extent permitted by law, all that KEF shall lawfully and in good faith do or cause to be done by reason of and in compliance with

this section. Borrower shall provide written notice to KEF at least thirty days prior to any contemplated change in Borrower's name, jurisdiction of organization or chief executive office address.

Borrower shall have possession of the Collateral except where expressly otherwise provided in this Agreement or where KEF chooses to perfect its security interest by possession in addition to the filing of a financing statement. If any of the Collateral is at any time in the possession of a third party, Borrower will join with KEF in notifying such third party of KEF's security interest and obtaining an acknowledgment from such third party that it is holding the Collateral for the benefit of KEF.

If any lien or encumbrance other than KEF's or Permitted Encumbrances shall attach to Equipment, Borrower shall (i) give KEF immediate written notice thereof and (ii) promptly, at Borrower's sole cost and expense, take such action as may be necessary to discharge such lien.

Borrower will not create any Chattel Paper with respect to the Equipment without placing a legend on the Chattel Paper acceptable to KEF indicating that KEF has a security interest in the Chattel Paper.

Delivery and Acceptance. If requested by KEF, Borrower shall execute and deliver to KEF a Certificate of Acceptance for the Equipment described on such Collateral Schedule and, in such event, **KEF SHALL HAVE NO OBLIGATION TO ADVANCE ANY FUNDS TO BORROWER UNLESS AND UNTIL KEF SHALL HAVE RECEIVED A CERTIFICATE OF ACCEPTANCE RELATING TO THE EQUIPMENT EXECUTED BY BORROWER.**

Payments. Borrower shall pay each Note on the terms set forth therein. All Installments shall be payable when due and be paid to KEF at 1000 South McCaslin Boulevard, Superior, CO 80027, or as otherwise directed by KEF in writing. Lender does not intend to charge any amount in excess of the maximum amount of time price differential or interest, as applicable, permitted to be charged or collected by applicable law and any such excess amounts will be applied to payments due under each loan, in inverse order of maturity, with any surplus refunded to Borrower.

Location; Inspection. Equipment shall be delivered to the location ("Equipment Location") specified in a Collateral Schedule and shall not be removed therefrom without KEF's prior written consent provided, however that Borrower may freely move Equipment between the following Borrower facilities without KEF's prior written consent: 1000 Elk Creek Rd, Verner, WV 25650, 497 Fork Ridge Rd, Raven, VA 24639 and 1000 Faraday Rd, Berwind, WV 24815. KEF shall have the right to enter upon the premises where the Collateral is located and inspect the Collateral at any reasonable time. At KEF's request, Borrower shall (a) affix permanent labels in a prominent place on Equipment stating KEF's interest in the Equipment, (b) keep such labels in good repair and condition and (c) provide KEF with an inventory listing of all labeled Equipment within thirty days of such request.

Use; Alterations. Borrower shall use Equipment lawfully and only in the manner for which it was designed and intended and so as to subject it only to ordinary wear and tear. Borrower shall comply with all applicable laws. Borrower shall immediately notify KEF, in writing, upon becoming aware of any existing or threatened investigation, claim or action by any governmental authority that could adversely affect Equipment, KEF or this Agreement. Borrower, at its own expense, shall make such alterations, additions or modifications to Equipment as may be required from time to time to meet the requirements of applicable law or a governmental body (each, a "Required Alteration"). All such Required Alterations shall immediately, and without further act, be deemed to constitute "Equipment" and be fully subject to this Agreement as if originally financed hereunder. Borrower shall not make any other alterations to Equipment without KEF's prior written consent.

Repairs and Maintenance. Borrower, at Borrower's sole cost and expense, shall (a) keep Equipment in good repair, operating condition, appearance and working order in compliance with the manufacturer's recommendations and Borrower's standard practices (but in no event less than industry practices), (b) properly service all components of Equipment following the manufacturer's written operating and servicing procedures, and (c) replace any part of the Equipment that becomes unfit or unavailable for use from any cause (whether or not such replacement is covered by a maintenance agreement) with a replacement part that, in KEFs sole opinion, is of the same manufacture, value, remaining useful life and utility as the replaced part immediately preceding the replacement, assuming that such replaced part was in the condition required by this Agreement. Replacement parts shall be free and clear of all liens except Permitted Encumbrances, constitute Equipment and be fully subject to this Agreement as if originally financed hereunder.

Lease and Assignment. BORROWER SHALL NOT, WITHOUT KEF'S PRIOR WRITTEN CONSENT, (i) SELL, ASSIGN, TRANSFER, PLEDGE, HYPOTHECATE OR OTHERWISE DISPOSE OF THE COLLATERAL OR ANY INTEREST THEREIN, (ii) RENT OR LEND EQUIPMENT TO ANYONE OR (iii) PERMIT EQUIPMENT TO BE USED BY ANYONE OTHER THAN BORROWER OR BORROWER'S AFFILIATES AND THEIR RESPECTIVE QUALIFIED EMPLOYEES. BORROWER ACKNOWLEDGES IT REMAINS PRIMARILY LIABLE FOR ALL OBLIGATIONS ARISING HEREUNDER NOTWITHSTANDING USE BY AN AFFILIATE.

KEF, at any time with or without notice to Borrower, may sell, transfer, assign and/or grant a security interest in all or any part of KEF's interest in the Loan Documents or any Equipment (each, a "KEF Transfer). Any purchaser, transferee, assignee or secured party of KEF (each a "KEF Assignee") shall have and may exercise all of KEF's rights under the applicable Loan Documents and hereunder with respect to the Equipment to which any such KEF Transfer relates, and Borrower shall not assert against any KEF Assignee any claim that Borrower may have against KEF; *provided,* Borrower may assert any such claim in a separate action against KEF. Upon receipt of written notice of a KEF Transfer, Borrower shall promptly acknowledge in writing its obligations under the applicable Note and hereunder, shall comply with the written directions or demands of any KEF Assignee and shall make all payments due under the applicable Note as directed in writing by the KEF Assignee. Following such KEF Transfer, the term "KEF" shall be deemed

to include or refer to each KEF Assignee. Borrower will provide reasonable assistance to KEF to complete any transaction contemplated by this subsection (b).

Subject to the restriction on assignment contained in subsection (a), the Loan Documents shall inure to the benefit of, and be binding upon, the successors and assigns of the parties thereto including, without limitation, each person who becomes bound thereto as a "new debtor" as set forth in the UCC.

Risk of Loss; Damage to Equipment. Borrower shall bear the entire risk of loss (including without limitation, theft, destruction, disappearance of or damage to Equipment from any cause whatsoever), whether or not insured against, during the Term of each Note. No such loss shall relieve Borrower of the obligation to pay Installments or of any other obligation under any Loan Documents.

If any Equipment is lost, stolen or damaged beyond repair, or is confiscated or seized, or the use and/or title thereof is requisitioned to someone other than Borrower (any such event being a "Total Loss"), Borrower shall immediately notify KEF of such event. On the next Installment payment date following the occurrence of the Total Loss, at KEF's option, Borrower shall either (i) replace the Equipment that suffered a Total Loss with equipment that is free of all liens except Permitted Encumbrances and, in KEF's sole opinion, is of the same manufacture, value, remaining useful life and utility as the replaced Equipment immediately preceding the replacement, assuming such replaced Equipment was in the condition required by this Agreement or (ii) pay to KEF any unpaid Installments and other charges due prior to the payment date specified in such notice plus an amount, with respect to an item of Equipment, equal to the pro rata portion of the Installments attributable to such item of Equipment under the Loan Documents after discounting those Installments to present worth as of the payment date specified in the notice on the basis of a per annum rate of discount equal to three percent from the respective dates upon which the Installments would have been paid but for the operation of this clause, together with interest on such amount at the Default Rate from the payment date specified in the notice to the date of actual payment.

If KEF elects to allow replacement of Equipment as set forth in subsection (b)(i) above, such replacement equipment shall become Equipment subject to this Agreement and the security interest granted to KEF hereunder, and KEF shall release its interest in the applicable Equipment in its then condition and location, "AS IS" and "WHERE IS," without any warranties, express or implied. Alternatively, upon KEF's receipt of the amounts specified in subsection (b)(ii) above, KEF shall release its interest in the applicable Equipment, in its then condition and location, "AS IS" and "WHERE IS," without any warranties, express or implied.

Insurance. Borrower shall, at all times during the Term of each Note and at Borrower's own cost and expense, maintain (i) insurance against all risks of physical loss or damage to Equipment for the full replacement value thereof, and (ii) commercial general liability insurance (including blanket contractual liability coverage and products liability coverage) for personal and bodily injury and property damage per occurrence as stated in each Collateral Schedule.

All insurance policies required hereunder shall include terms, and be with insurance carriers, reasonably satisfactory to KEF. Without limiting the generality of the foregoing, each policy shall include the following terms: (i) all physical damage insurance shall name KEF and its assigns as lender loss payee, (ii) all liability insurance shall name KEF and its assigns as additional insureds, (iii) the policy shall not be canceled or altered without at least thirty days' advance notice to KEF and its assigns and (iv) coverage shall not be invalidated against KEF or its assigns because of any violation of any condition or warranty contained in any policy or application therefor by Borrower or by reason of any action or inaction of Borrower. On each anniversary of the date on which KEF funds any Note hereunder, and during the term hereof, Borrower shall deliver to KEF certificates or other proof of insurance satisfactory to KEF evidencing the coverage required by this section.

Taxes. Borrower shall pay when due and shall indemnify and hold harmless KEF (on an after-tax basis) from and against any and all taxes, fees, withholdings, levies, imposts, duties, assessments and charges of every kind and nature whatsoever (including any related penalties and interest) imposed upon or against KEF, any KEF Assignee, Borrower or any Collateral by any governmental authority in connection with, arising out of or otherwise related to Collateral, the Loan Documents or any Installments and receipts or earnings arising therefrom and excepting only all Federal, state and local taxes on or measured by KEF's net income.

KEF's Right to Perform for Borrower. If Borrower fails to perform any of its obligations contained herein, KEF may (but shall not be obligated to) itself perform such obligations, and the amount of the reasonable costs and expenses of KEF incurred in connection with such performance, together with interest on such amount from the date said amounts are expended at the Default Rate, shall be payable by Borrower to KEF upon demand. No such performance by KEF shall be deemed a waiver of any rights or remedies of KEF or be deemed to cure any Default of Borrower hereunder.

Default; Remedies. As used herein, the term "Default' means any of the following events: (i) Borrower fails to pay any Installment or other amount due under a Note within ten days after the same shall have become due; (ii) Borrower becomes insolvent or makes an assignment for the benefit of its creditors; (iii) a receiver, trustee, conservator or liquidator of Borrower of all or a substantial part of Borrower's assets is appointed with or without the application or consent of Borrower; (iv) a petition is filed by or against Borrower under any bankruptcy, insolvency or similar law; (v) Borrower violates or fails to perform any provision of either this Agreement or any other loan, credit agreement, lease or any acquisition or purchase agreement with KEF or any other party; (vi) any warranty or representation made by Borrower herein proves to have been false or misleading when made; (vii) there is a material adverse change in Borrower's financial condition since the funding of any Note, which shall not include any failure to meet any published or internally prepared projections, budgets, plans or forecasts of revenues, earnings or other financial performance measures or operating statistics; (viii) Borrower merges or consolidates with any other corporation or entity, or sells, leases or disposes of all or substantially all of its assets without the prior written consent of KEF; (ix) Borrower is dissolved; (x) a change in control occurs in Borrower or any Guarantor in which any person or group of persons shall acquire beneficial ownership of fifty percent (50%) or more of the combined voting power of the then outstanding voting securities of Borrower or any Guarantor entitled to vote generally in the election of directors for such entity; (xi) Borrower appears, or is located in any country that appears, on any list of the U.S. Office of Foreign Assets Control or other similar list; (xii) any filing by Borrower of a termination statement for any financing statement filed by KEF while any obligations are owed by Borrower under a Note; and (xiii) any of the events listed in subsections (ii) through (xi) above occurs with

respect to any Guarantor. A Default with respect to any Note shall, at KEF's option, constitute a Default for all Notes and any other agreements between KEF and Borrower.

Upon the occurrence of a Default, KEF may declare any or all of the Secured Obligations to be immediately due and payable, without demand or notice to Borrower or any Guarantor, and KEF shall have the immediate right to enforce its rights with all Collateral Schedules. The obligation and liabilities accelerated thereby shall bear interest (both before and after any judgment) until paid in full at the Default Rate. Should there occur a Default, and if a voluntary or involuntary petition under the United States Bankruptcy Code is filed by or against Borrower while such Default remains uncured, the Secured Obligations shall be automatically accelerated and due and payable and interest thereon at the Default Rate shall automatically apply as of the date of the first occurrence of the Default, without any notice, demand or action of any type on the part of KEF (including any action evidencing the acceleration or imposition of the Default Rate). The fact that KEF has, prior to the filing of the voluntary or involuntary petition under the United States Bankruptcy Code, acted in a manner which is inconsistent with the acceleration and imposition of such rate shall not constitute a waiver of this provision or estop KEF from asserting or enforcing KEF's rights hereunder.

In addition, and after a Default, KEF may do any one or more of the following as KEF in its sole discretion shall elect: (i) proceed by appropriate court action to enforce performance by Borrower of the related Note or to recover damages, including incidental damages that are expressly provided for in this Agreement, for the breach thereof; (ii) cause Borrower, at its expense, to promptly assemble the Collateral and deliver the same to KEF at such place as KEF may designate in writing; (iii) enter upon the premises of Borrower or other premises where any Collateral may be located and, without notice to Borrower and with or without legal process, take possession of and remove all or any such Collateral without liability to Borrower by reason of such entry or taking possession; (iv) sell the Collateral at public or private sale or hold, keep idle or lease to others any Collateral; and (v) exercise any other right or remedy available to KEF under applicable law. Borrower shall be liable for all reasonable costs, expenses, and legal fees incurred in enforcing KEF's rights under this Agreement, before or in connection with litigation or arbitration and for any deficiency in the disposition of the Equipment. KEF's recovery hereunder shall in no event exceed the maximum recovery permitted by law. Except as expressly provided for in this Agreement, neither party shall be liable for special, incidental, consequential or punitive damages under this Agreement.

If a Default occurs, Borrower hereby agrees that ten days' prior notice to Borrower of any public sale or of the time after which a private sale may be negotiated shall be conclusively deemed reasonable notice. None of KEF's rights or remedies hereunder are intended to be exclusive, but each shall be cumulative and in addition to any other right or remedy referred to hereunder or otherwise available to KEF at law or in equity, and no express or implied waiver by KEF of any Default shall constitute a waiver of any other Default or a waiver of any of KEF's rights.

With respect to any exercise by KEF of its right to recover and/or dispose of any Collateral, Borrower acknowledges and agrees that KEF may dispose of Collateral on an "AS IS, WHERE IS" basis, in compliance with applicable law and with such preparation (if any) as KEF determines to be commercially reasonable. Borrower shall remain liable for any deficiency in the disposition of the Collateral, and any purchase by KEF of the Collateral may be through a credit to some or all of Borrower's obligations under any Note.

Notices. All notices and other communications hereunder shall be in writing and shall be transmitted by hand, overnight courier or certified mail (return receipt requested), US postage prepaid. Such notices and other communications shall be addressed to the respective party at the address first set forth above or at such other address as any party may, from time to time, designate by notice duly given in accordance with this section. Such notices and other communications shall be effective upon receipt or, in the case of mailing in accordance with the terms of this section, the earlier of receipt or three days after mailing.

Indemnity. Borrower shall indemnify and hold harmless KEF and each KEF Assignee, on an after tax basis, from and against any and all liabilities, causes of action, claims, suits, penalties, damages, losses, costs or expenses (including attorneys' fees), obligations, liabilities, demands and judgments (collectively, a "Liability") arising out of or in any way related to: (a) Borrower's failure to perform any covenant under the Loan Documents, (b) the untruth of any representation or warranty made by Borrower under the Loan Documents or (c) injury to persons, property or the environment including any Liability based on strict liability in tort, negligence, breach of warranties or Borrower's failure to comply fully with applicable law or regulatory requirements; *provided,* that the foregoing indemnity shall not extend to any Liability to the extent resulting solely from the gross negligence or willful misconduct of KEF.

Fees and Expenses. Borrower shall pay all reasonable costs and expenses of KEF, including, without limitation, attorneys' and other professional fees, returned check or non-sufficient funds charges, the fees of any collection agencies and appraisers and all other costs and expenses related to any sale or lease of Equipment (including storage costs) incurred by KEF in enforcing any of the terms, conditions or provisions hereof or in protecting KEF's rights hereunder.

Financial and Other Data; Covenants. During the Term hereof, Borrower shall furnish KEF (i) as soon as available, and in any event within one hundred twenty days after the last day of each fiscal year, financial statements of Borrower and each Guarantor and (ii) from time to time as KEF may reasonably request, other financial reports, information or data (including federal and state income tax returns) and quarterly or interim financial statements of Borrower and each Guarantor. All such information shall be audited (or if audited information is not available, compiled or reviewed) by an independent certified public accountant. Filings of Ramaco Resources, Inc. on Forms 10-K and 10-Q shall constitute compliance with this section.

For so long as any financial covenants shall be in effect in any agreement between Borrower and KeyBank National Association (as amended, restated or modified after the date hereof, the "Financial Covenants"), the Borrower shall comply with all such Financial Covenants.

If any agreement (or any part thereof) containing Financial Covenants shall expire, or be canceled or terminated, or otherwise cease to be binding upon Borrower during the Term of a Note (a "Terminating Event"), Borrower agrees that the Financial Covenants in effect under such agreement immediately before the Terminating Event shall continue to be in effect under such Note(s) as if the Terminating Event had not occurred. It is the express intention of

KEF and Borrower that the Financial Covenants shall continue to be effective with respect to all Notes between KEF and Borrower until the date on which Borrower's obligations under the Note are fully paid and performed.

Representations and Warranties of Borrower. Borrower represents and warrants that as of the date hereof and as of the date of execution of each Note: (a) the address stated above is the chief place of business and chief executive office of Borrower, Borrower's full and accurate legal name is as stated above and the information describing Borrower set forth under Borrower's signature below is accurate in all respects; (b) Borrower is either a limited liability company or corporation duly organized and validly existing in good standing under the laws of the state of its organization or incorporation; (c) the execution, delivery and performance of this Agreement, each Note, each Collateral Schedule and all related instruments and documents (i) have been duly authorized by all necessary action on the part of Borrower, (ii) do not require the approval of any stockholder, partner, manager, trustee, or holder of any obligations of Borrower except such as have been duly obtained, and (iii) do not contravene any law, governmental rule, regulation or order binding on or applicable to Borrower, or contravene the operating agreement, charter or by-laws of Borrower, or constitute a default under, or result in the creation of any lien or encumbrance upon the property of Borrower under, any indenture, mortgage, contract or other agreement to which Borrower is a party or by which it or its property is bound; (d) the Loan Documents, when entered into constitute legal, valid and binding obligations of Borrower enforceable against Borrower in accordance with their terms; (e) there are no actions or proceedings to which Borrower is a party, and there are no threatened actions or proceedings of which Borrower has knowledge, before any governmental authority which, either individually or in the aggregate, would materially adversely affect the financial condition of Borrower or the ability of Borrower to perform its obligations hereunder; (f) Borrower is not in default under any obligation for the payment of borrowed money, for the deferred purchase price of property or for the payment of any rent under any agreement which, either individually or in the aggregate, would materially adversely affect the financial condition of Borrower or the ability of Borrower to perform its obligations hereunder; (g) the financial statements of Borrower (copies of which have been furnished to KEF) have been prepared in accordance with generally accepted accounting principles consistently applied and fairly present Borrower's financial condition and the results of its operations as of the date of and for the period covered by such statements, and since the date of such statements there has been no material adverse change in such conditions or operations, (h) the Equipment is, and shall at all times remain, fully removable personal property notwithstanding any affixation or attachment to real property or improvements, (i) Borrower is, and will continue to be, the sole owner of the Collateral and shall at all times keep the Collateral free and clear from all liens and encumbrances of any kind or nature other than those created by, through or under KEF or Permitted Encumbrances, (j) it has good, valid and marketable title to the Collateral, (k) the security interest in the Collateral granted to KEF hereunder, when properly perfected by filing, shall constitute a valid and perfected first priority security interest in the Collateral; (l) the loan is for commercial and business purposes and the Collateral will be used solely for such purposes, (m) the Collateral is not subject to, and Borrower will not grant or permit to exist, any liens or claims on or against the Collateral whether senior, superior, junior, subordinate or equal to the security interest granted to KEF hereby, or otherwise except Permitted Encumbrances, (n) neither the Borrower nor, to the Borrower's knowledge, any director, officer, agent, employee or affiliate of the Borrower is currently subject to any U.S. sanctions administered by the Office of Foreign Assets Control of the U.S. Treasury Department ("OFAC"), and (o) the Borrower will not directly or indirectly use the proceeds of the Agreement, or lend, contribute or otherwise make available such proceeds to any affiliate or other person or entity, for the purpose of financing the activities of any person currently subject to any U.S. sanctions administered by OFAC.

Miscellaneous; Governing Law. Time is of the essence with respect to the Loan Documents. Any failure of KEF to require strict performance by Borrower or any waiver by KEF of any provision of the Loan Documents shall not be construed as a consent or waiver of any other provision of such Loan Documents. This Agreement will be binding upon KEF only if executed by a duly authorized officer or representative of KEF at KEF's address set forth above. An authorized signer of Borrower shall execute the Loan Documents on Borrower's behalf. Any provision of a Loan Document that is prohibited or unenforceable shall be ineffective to the extent of such prohibition or unenforceability without invalidating the remaining provisions thereof. Captions are intended for convenience of reference only, and shall not be construed to define, limit or describe the scope or intent of any provisions hereof. Borrower will promptly execute or otherwise authenticate and deliver to KEF such further documents, instruments, assurances and other records and take such further action as KEF may reasonably request in order to carry out the intent and purposes of the Loan Documents and to establish and protect the rights and remedies created or intended to be created in favor of KEF hereunder and thereunder.

EACH OF THE LOAN DOCUMENTS IS BEING DELIVERED IN, AND SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF, THE STATE OF NEW YORK, INCLUDING ALL MATTERS OF CONSTRUCTION, VALIDITY AND PERFORMANCE, WITHOUT GIVING EFFECT TO ANY CHOICE OF LAW OR CONFLICT OF LAWS (OTHER THAN SECTION 5-1401 OF THE NEW YORK GENERAL OBLIGATIONS LAW). ANY ACTION BETWEEN THE PARTIES ARISING OUT OF OR RELATING TO THIS AGREEMENT OR THE TRANSACTIONS CONTEMPLATED HEREBY, INCLUDING NON-CONTRACTUAL CLAIMS, SHALL BE BROUGHT IN ANY STATE OR FEDERAL COURT LOCATED IN THE STATE OF NEW YORK; PROVIDED, THAT AT KEF'S SOLE OPTION, KEF MAY BRING AN ACTION IN THE STATE WHERE BORROWER OR THE EQUIPMENT IS LOCATED. BORROWER IRREVOCABLY WAIVES OBJECTIONS TO THE JURISDICTION OF SUCH COURTS AND WAIVES ANY ARGUMENT THAT VENUE IN ANY SUCH FORUM IS NOT CONVENIENT. KEF AND BORROWER HEREBY EACH WAIVE THEIR RESPECTIVE RIGHTS TO TRIAL BY JURY OF ANY CLAIM OR CAUSE OF ACTION BASED UPON OR ARISING OUT OF OR RELATED TO THE COLLATERAL OR THE LOAN DOCUMENTS. THIS WAIVER IS MADE KNOWINGLY, WILLINGLY AND VOLUNTARILY BY KEF AND BORROWER WHO EACH ACKNOWLEDGE THAT NO REPRESENTATIONS HAVE BEEN MADE BY ANY INDIVIDUAL TO INDUCE THIS WAIVER OF TRIAL BY JURY OR IN ANY WAY TO MODIFY OR NULLIFY ITS EFFECT. THIS WAIVER SHALL APPLY TO ANY SUBSEQUENT AMENDMENTS, RENEWALS, SUPPLEMENTS OR MODIFICATIONS TO ANY OF THE LOAN DOCUMENTS.

More than One Borrower. The rights and obligations of Borrower are joint and several. Each reference to the term "Borrower shall be deemed to refer to each of RAMACO RESOURCES, INC.; RAMACO DEVELOPMENT, LLC; RAMMINING, LLC; RAMACO COAL SALES, LLC; RAMACO RESOURCES, LLC; and RAMACO RESOURCES LAND HOLDINGS, LLC; each representation and warranty made by Borrower shall be deemed to have been made by each such party; each covenant and undertaking on the part of Borrower shall be deemed individually applicable with respect to each such party; and each event constituting a Default under this Agreement shall be determined with respect to each such party. A separate action or actions may be brought and prosecuted against any such party whether an action is brought against any other party or whether any other party is joined in any such action or actions. Each such party waives any right to require Agreement to: (i) proceed against any other party; (ii) proceed against or exhaust any security held from any other party; or (iii) pursue any other remedy in KEF's power whatsoever. Notices hereunder required to be provided

to Borrower shall be effective if provided to any such party. Any consent on the part of Borrower hereunder shall be effective when provided by any such party and KEF shall be entitled to rely upon any notice or consent given by any such party as being notice or consent given by Borrower hereunder.

In the event any obligation of Borrower under this Agreement is deemed to be an agreement by any individual Borrower to answer for the debt or default of another individual Borrower (including each other) or as a hypothecation of property as security therefor, each Borrower represents and warrants that: (i) no representation has been made to it as to the creditworthiness of any other obligor, and (ii) it has established adequate means of obtaining from each other obligor on a continuing basis, financial or other information pertaining to each other obligors financial condition. Each Borrower expressly waives diligence, demand, presentment, protest and notice of every kind and nature whatsoever, consents to the taking by KEF of any additional security for the obligations secured hereby, or the alteration or release in any manner of any security now or hereafter held in connection with any obligations now or hereafter secured by this Agreement, and consents that KEF and any obligor may deal with each other in connection with said obligations or otherwise, or alter any contracts now or hereafter existing between them, in any manner whatsoever, including without limitation the renewal, extension, acceleration, changes in time for payment of any such obligations or in the terms or conditions of any security held, KEF is hereby expressly given the right, at its option, to proceed in the enforcement of this Agreement independently of any other remedy or security it may at any time hold in connection with such obligations secured and it shall not be necessary for KEF to proceed upon or against and/or exhaust any other security or remedy before proceeding to enforce its rights against any Borrower. Each Borrower further waives any right of subrogation, reimbursement, exoneration, contribution, indemnification, setoff or other recourse in respect of sums paid to KEF by a Borrower.

Separate Borrowings. Each Note and Collateral Schedule shall constitute a complete and separate loan and security agreement, independent of all other Notes and Collateral Schedules, and without any requirement of being accompanied by an originally executed copy of this Agreement. If any term or condition of any Note or Collateral Schedule conflicts or is inconsistent with any term or condition of this Agreement, the terms and conditions of such Note or Collateral Schedule shall govern.

Execution in Counterparts. One originally executed copy of the Collateral Schedule shall be denominated "Originally Executed Copy No. 1 of __ originally executed copies." If more than one copy of the Collateral Schedule is executed by Borrower and KEF, all such other copies shall be consecutively numbered with numbers greater than 1. Only Originally Executed Copy No. 1 shall constitute Chattel Paper.

Entire Agreement. Each Note, together with all other Loan Documents, constitutes the entire understanding or agreement between KEF and Borrower with respect to the financing of the Equipment covered by the related Collateral Schedule, and there is no understanding or agreement, oral or written, which is not set forth herein or therein. No Loan Document may be amended except by a writing signed by KEF and Borrower. Delivery of an executed Loan Document by facsimile or any other reliable means shall be deemed as effective for all purposes as delivery of a manually executed copy. Borrower shall provide to KEF the manually executed original of any Loan Document delivered by facsimile within five days.

Borrower:

RAMACO RESOURCES, INC.

RAMACO DEVELOPMENT, LLC

RAM MINING, LLC

RAMACO COAL SALES, LLC

RAMACO RESOURCES, LLC

RAMACO RESOURCES LAND HOLDINGS, LLC

By: /s/ Randall W. Atkins

Name: Randall W. Atkins

Title: Executive Chairman

Lender:

KEY EQUIPMENT FINANCE, A DIVISION OF KEYBANK NATIONAL ASSOCAITION

By: /s/ Elizabeth Murphy

Name: Elizabeth Murphy

Title: Vice President

Subsidiaries of Ramaco Resources, Inc.

Entity	**State of Formation**
Ramaco Development, LLC	Delaware
RAM Mining, LLC	Delaware
RAMACO Coal Sales, LLC	Delaware
Ramaco Resources, LLC	Delaware
RAMACO Resources Land Holdings, LLC	Delaware
Ramaco Coal, Inc.	Delaware

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the Registration Statement on Form S-8 (No. 333-215913) of Ramaco Resources, Inc. of our report dated February 20, 2020, with respect to the consolidated balance sheets of Ramaco Resources, Inc. as of December 31, 2019 and 2018, and the related consolidated statements of income, equity, and cash flows for each of the years in the three-year period ended December 31, 2019, which report appears in the December 31, 2019 Annual Report on Form 10-K of Ramaco Resources, Inc.

/s/ Briggs & Veselka Co.

Briggs & Veselka Co.
Houston, Texas

February 20, 2020

Exhibit 23.2

CONSENT OF WEIR INTERNATIONAL, INC.

Weir International, Inc., as independent mining engineers and geologists, hereby consents to the use by Ramaco Resources, Inc. (the "Company") of information contained in our reserves and resource studies relating to the proven and probable coal reserves of the Company's Berwind, RAM Mine, Knox Creek and Elk Creek properties in the Company's Annual Report on Form 10-K for the year ended December 31, 2019 (and any amendments thereto) and incorporation by reference of such information in the Company's Registration Statement on Form S-8 (File No. 333-215913). We also consent to the reference to Weir International, Inc. in those filings and any amendments thereto.

WEIR INTERNATIONAL, INC.

/s/ Fran X. Taglia

Fran X. Taglia
President

February 20, 2020

Exhibit 23.3

CONSENT OF TRUE LINE, INC.

True Line, Inc., as independent mining engineers, hereby consents to the use by Ramaco Resources, Inc. (the "Company") of information contained in our reserves and resource studies relating to the proven and probable coal reserves of the "Company's Berwind, RAM Mine, Knox Creek and Elk Creek properties in the Company's Annual Report on Form 10-K for the year ended December 31, 2019 (and any amendments thereto) and incorporation by reference of such information in the Company's Registration Statement on Form S-8 (File No. 333-215913). We also consent to the reference to True Line, Inc. in those filings and any amendments thereto.

TRUE LINE, INC.

/s/ Jim Corner
Jim Corner, PE, PS

February 20, 2020

Certification of Chief Executive Officer
pursuant to Rule 13a-14(a) and Rule 15d-14(a)
of the Securities Exchange Act OF 1934, as amended

I, Michael D. Bauersachs, certify that:

1. I have reviewed this Annual Report on Form 10-K for the year ended December 31, 2019 of Ramaco Resources, Inc. (the "registrant");

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:

   a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;

   c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation;

   d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 20, 2020

/s/ Michael D. Bauersachs
Michael D. Bauersachs
President and Chief Executive Officer

Exhibit 31.2

Certification of Chief Financial Officer
pursuant to Rule 13a-14(a) and Rule 15d-14(a)
of the Securities Exchange Act OF 1934, as amended

I, Jeremy R. Sussman, certify that:

1. I have reviewed this Annual Report on Form 10-K for the year ended December 31, 2019 of Ramaco Resources, Inc. (the "registrant");

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:

   a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;

   c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation;

   d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 20, 2020

/s/ Jeremy R. Sussman
Jeremy R. Sussman
Chief Financial Officer

Exhibit 32.1

Certification of
Chief Executive Officer
under Section 906 of the
Sarbanes Oxley Act of 2002, 18 U.S.C. § 1350

In connection with the Annual Report on Form 10-K for the year ended December 31, 2019 of Ramaco Resources, Inc. (the "Company"), as filed with the Securities and Exchange Commission on the date hereof (the "Report"), Michael Bauersachs, Chief Executive Officer of the Company, certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to his knowledge:

(1) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: February 20, 2020

/s/ Michael D. Bauersachs
Michael D. Bauersachs
President and Chief Executive Officer

Exhibit 32.2

Certification of
Chief Financial Officer
under Section 906 of the
Sarbanes Oxley Act of 2002, 18 U.S.C. § 1350

In connection with the Annual Report on Form 10-K for the year ended December 31, 2019 of Ramaco Resources, Inc. (the "Company"), as filed with the Securities and Exchange Commission on the date hereof (the "Report"), Jeremy R. Sussman, Chief Financial Officer of the Company, certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to his knowledge:

(1) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: February 20, 2020

/s/ Jeremy R. Sussman
Jeremy R. Sussman
Chief Financial Officer

Federal Mine Safety and Health Act Information

We work to prevent accidents and occupational illnesses. We have in place health and safety programs that include extensive employee training, safety incentives, drug and alcohol testing and safety audits. The objectives of our health and safety programs are to provide a safe work environment, provide employees with proper training and equipment and implement safety and health rules, policies and programs that foster safety excellence.

Our mining operations are subject to extensive and stringent compliance standards established pursuant to the Federal Mine Safety and Health Act of 1977 (the "Mine Act"). MSHA monitors and rigorously enforces compliance with these standards, and our mining operations are inspected frequently. Citations and orders are issued by MSHA under Section 104 of the Mine Act for violations of the Mine Act or any mandatory health or safety standard, rule, order or regulation promulgated under the Mine Act.

The Dodd-Frank Wall Street Reform and Consumer Protection Act ("Dodd-Frank Act") requires issuers to include in periodic reports filed with the SEC certain information relating to citations or orders for violations of standards under the Mine Act. We present information below regarding certain mining safety and health violations, orders and citations, issued by MSHA and related assessments and legal actions and mine-related fatalities with respect to our coal mining operations. In evaluating this information, consideration should be given to factors such as: (i) the number of violations, orders and citations will vary depending on the size of the coal mine, (ii) the number of violations, orders and citations issued will vary from inspector to inspector and mine to mine, and (iii) violations, orders and citations can be contested and appealed, and in that process, are often reduced in severity and amount, and are sometimes dismissed.

The following tables include information required by the Dodd-Frank Act for the year ended December 31, 2019. The mine data retrieval system maintained by MSHA may show information that is different than what is provided herein. Any such difference may be attributed to the need to update that information on MSHA's system and/or other factors. The tables below do not include any orders or citations issued to independent contractors at our mines.

Mine or Operating Name / MSHA Identification Number	*Section 104(a) S&S Citations*[1]	*Section 104(b) Orders*[2]	*Section 104(d) Citations and Orders*[3]	*Section 110(b)(2) Violations*[4]	*Section 107(a) Orders*[5]	*Total Dollar Value of MSHA Assessments Proposed (in thousands)*[6]
Active Operations						
Eagle Seam Deep Mine 46-09495	19	0	0	0	0	$ 44
Coal Creek Prep Plant (VA) 44-05236	0	0	0	0	0	$ 1
Elk Creek Prep Plant 46-02444	15	0	0	0	0	$ 9
Stonecoal Branch Mine No. 2 46-08663	17	0	0	0	0	$ 35
Ram Surface Mine No. 1 46-09537	5	0	0	0	0	$ 7
Highwall Miner No. 1 46-09219	1	0	0	0	0	$ 2
Berwind Deep Mine 46-09533	22	0	0	0	0	$ 27
No. 2 Gas Deep Mine 46-09541	21	0	0	0	0	$ 18
Tiller No.1 44-06804	4	0	0	0	0	$ 3

Mine or Operating Name / MSHA Identification Number	*Total Number of Mining Related Fatalities*	*Received Notice of Pattern of Violations Under Section 104(e) (yes/no)*[7]	*Legal Actions Pending as of Last Day of Period*	*Legal Actions Initiated During Period*	*Legal Actions Resolved During Period*
Active Operations					
Eagle Seam Deep Mine 46-09495	0	No	0	1	1
Coal Creek Prep Plant (VA) 44-05236	0	No	0	0	0
Elk Creek Prep Plant 46-02444	0	No	0	0	0
Stonecoal Branch Mine No. 2 46-08663	0	No	0	15	15
Ram Surface Mine No. 1 46-09537	0	No	0	4	4
Highwall Miner No. 1 46-09219	0	No	0	3	3
Berwind Deep Mine 46-09533	0	No	21	25	4
No. 2 Gas 46-09541	0	No	0	0	0
Tiller No.1 44-06804	0	No	0	0	0

The number of legal actions pending before the Federal Mine Safety and Health Review Commission as of December 31, 2019 that fall into each of the following categories is as follows:

Mine or Operating Name / MSHA Identification Number	*Contests of Citations and Orders*	*Contests of Proposed Penalties*	*Complaints for Compensation*	*Complaints of Discharge / Discrimination / Interference*	*Applications for Temporary Relief*	*Appeals of Judge's Ruling*
Active Operations						
Eagle Seam Deep Mine 46-09495	0	17	0	0	0	0
Coal Creek Prep Plant (VA) 44-05236	0	0	0	0	0	0
Elk Creek Prep Plant 46-02444	0	0	0	0	0	0
Stonecoal Branch Mine No. 2 46-08663	0	35	0	0	0	0
Ram Surface Mine No. 1 46-09537	0	4	0	0	0	0
Highwall Miner No. 1 46-09219	0	3	0	0	0	0
Berwind Deep Mine 46-09533	0	39	0	0	0	0
No. 2 Gas 46-09541	0	0	0	0	0	0
Tiller No.1 44-06804	0	0	0	0	0	0

(1) Mine Act section 104(a) S&S citations shown above are for alleged violations of mandatory health or safety standards that could significantly and substantially contribute to a coal mine health and safety hazard. It should be noted that, for purposes of this table, S&S citations that are included in another column, such as Section 104(d) citations, are not also included as Section 104(a) S&S citations in this column.

(2) Mine Act section 104(b) orders are for alleged failures to totally abate a citation within the time period specified in the citation.

(3) Mine Act section 104(d) citations and orders are for an alleged unwarrantable failure (i.e., aggravated conduct constituting more than ordinary negligence) to comply with mandatory health or safety standards.

(4) Mine Act section 110(b)(2) violations are for an alleged "flagrant" failure (i.e., reckless or repeated) to make reasonable efforts to eliminate a known violation of a mandatory safety or health standard that substantially and proximately caused, or reasonably could have been expected to cause, death or serious bodily injury.

(5) Mine Act section 107(a) orders are for alleged conditions or practices which could reasonably be expected to cause death or serious physical harm before such condition or practice can be abated and result in orders of immediate withdrawal from the area of the mine affected by the condition.

(6) Amounts shown include assessments proposed by MSHA on all citations and orders, including those citations and orders that are not required to be included within the above chart.

(7) Mine Act section 104(e) written notices are for an alleged pattern of violations of mandatory health or safety standards that could significantly and substantially contribute to a coal mine safety or health hazard.