

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

FORM 10-K

(Mark One)

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

For the fiscal year ended December 31, 2023

OR

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

For the transition period from to
Commission File Number 001-41828

Atlas Energy Solutions Inc.

(Exact name of Registrant as specified in its Charter)

Delaware

(State or other jurisdiction of
incorporation or organization)

**5918 W. Courtyard Drive, Suite 500
Austin, Texas**

(Address of principal executive offices)

93-2154509

(I.R.S. Employer
Identification No.)

78730

(Zip Code)

Registrant's telephone number, including area code:

(512) 220-1200

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

Title of each class

Common stock, par value \$0.01 per share

**Trading
Symbol(s)**

AESI

Name of each exchange on which registered

New York Stock Exchange

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

Indicate by check mark if the Registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. YES NO

Indicate by check mark if the Registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. YES NO

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

Indicate by check mark whether the Registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the Registrant was required to submit such files). YES NO

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

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

Emerging growth company

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

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

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

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

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

The aggregate market value of the outstanding common stock held by non-affiliates of the registrant as of June 30, 2023, the last business day of the registrant's most recently completed second fiscal quarter, was approximately \$305,585,146, based on the closing sale price of \$17.36 per share, as reported on the New York Stock Exchange on such date.

As of February 21, 2024, the registrant had 100,025,584 shares of common stock, par value \$0.01 per share, outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement for its 2024 Annual Meeting of Stockholders (the "Proxy Statement") are incorporated by reference into Part III of this Annual Report on Form 10-K and will be filed within 120 days of the registrant's fiscal year end.

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GLOSSARY OF COMMONLY USED TERMS

Unless the context otherwise requires, all references in this Annual Report on Form 10-K (this “*Annual Report*”) to:

- “*2018 ABL Credit Facility*” refer to the credit facility extended pursuant to the Loan, Security and Guaranty Agreement, dated as of December 14, 2018, among Atlas Sand Company, LLC, as borrower, the lender parties thereto and Barclays Bank PLC, as Administrative Agent and Collateral Agent, as amended;
- “*2018 Term Loan Credit Facility*” refer to the credit facility extended pursuant to the Credit Agreement, dated January 30, 2018, between Atlas Sand Company, LLC, as borrower, and BlackGold SPV I LP, as lender, as amended;
- “*2021 Term Loan Credit Facility*” refer to the credit facility extended pursuant to the Credit Agreement, dated October 20, 2021, between Atlas Sand Company, LLC, as borrower, and Stonebriar Commercial Finance, LLC, as lender, as amended;
- “*2023 ABL Credit Agreement*” refer to the Loan, Security and Guaranty Agreement, dated as of February 22, 2023, among Atlas Sand Company, LLC, as borrower, certain of its subsidiaries, as guarantors, the lenders party thereto from time to time and Bank of America, N.A., as agent, sole lead arranger and sole bookrunner;
- “*2023 ABL Credit Facility*” refer to the credit facility extended pursuant to the 2023 ABL Credit Agreement;
- “*2023 Term Loan Credit Agreement*” refer to the Credit Agreement, dated July 31, 2023, among Atlas Sand Company, LLC, as borrower, the lender party thereto from time to time and Stonebriar Commercial Finance LLC, as administrative agent, as amended;
- “*2023 Term Loan Credit Facility*” refer to the credit facility extended pursuant to the 2023 Term Loan Credit Agreement;
- “*A&R Registration Rights Agreement*” refer to that certain Amended and Restated Registration Rights Agreement, dated as of October 2, 2023, among the Company, Old Atlas and certain of the Legacy Owners in connection with the consummation of the Up-C Simplification;
- “*A&R Stockholders’ Agreement*” refer to that certain Amended and Restated Stockholders’ Agreement, dated as of October 2, 2023, among the Company, Old Atlas and the Principal Stockholders in connection with the consummation of the Up-C Simplification;
- “*ASC Incentive Plan*” refer to the Atlas Sand Company, LLC Long-Term Incentive Plan;
- “*ASMC*” refer to Atlas Sand Management Company, LLC, a Texas limited liability company;
- “*ASMC II*” refer to Atlas Sand Management Company II, LLC, a Delaware limited liability company;
- “*ASMC Incentive Plan*” refer to the Atlas Sand Management Company, LLC Long Term Incentive Plan;
- “*Atlas LLC*” refer to Atlas Sand Company, LLC, a Delaware limited liability company and the predecessor of Old Atlas;
- “*Atlas Operating*” refer to Atlas Sand Operating, LLC, a Delaware limited liability company and the operating subsidiary of Old Atlas;
- “*BLM*” refer to the Bureau of Land Management, a federal agency within the U.S. Department of the Interior;
- “*Board*” refer to the Board of Directors of the Company;
- “*Bylaws*” refer to the Amended and Restated Bylaws of the Company;
- “*CCAA*” refer to the Candidate Conservation Agreement with Assurances relating to the DSL;
- “*Charter*” refer to the Amended and Restated Certificate of Incorporation of the Company;
- “*Code*” refer to the Internal Revenue Code of 1986, as amended;
- “*Common Stock*” refer to the common stock of the Company, par value \$0.01;
- “*Company*,” “*we*,” “*us*,” “*our*” and like expressions refer to Atlas Energy Solutions Inc., a Delaware corporation and the public company successor of Old Atlas (f/k/a New Atlas HoldCo Inc.), together with its subsidiaries;
- “*DGCL*” refer to the General Corporation Law of the State of Delaware;
- “*DOL*” refer to the U.S. Department of Labor;
- “*DSL*” refer to the dunes sagebrush lizard;
- “*E&P*” refer to exploration and production;

- “*EPA*” refer to the Environmental Protection Agency;
- “*ESA*” refer to the Endangered Species Act of 1973, as amended;
- “*ESG*” refer to environmental, social and governance.
- “*Exchange Act*” refer to the Securities Exchange Act of 1934, as amended;
- “*GAAP*” refer to the generally accepted accounting principles in the United States of America;
- “*HoldCos*” refer to Holdings, Holdings II, ASMC and ASMC II, collectively;
- “*Holdings*” refer to Atlas Sand Holdings, LLC, a Delaware limited liability company;
- “*Holdings II*” refer to Atlas Sand Holdings II, LLC, a Delaware limited liability company;
- “*HSR Act*” refer to the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended;
- “*IPO*” refer to the initial public offering of Old Atlas Class A Common Stock by Old Atlas completed on March 13, 2023;
- “*IPO Reorganization Agreement*” refer to that certain Master Reorganization Agreement, dated March 8, 2023, among Old Atlas, Atlas Operating, Atlas LLC, ASMC, Holdings, Holdings II, ASMC II and Atlas Sand Merger Sub, LLC, a Delaware limited liability company;
- “*IRS*” refer to the U.S. Internal Revenue Service;
- “*JOBS Act*” refer to the Jumpstart Our Business Startups Act of 2012;
- “*Legacy Owners*” refer to holders of membership interests in Holdings, Holdings II, ASMC and ASMC II, who, prior to the IPO, directly or indirectly held membership interests in Atlas LLC;
- “*Lock-Up Period*” refer to the period beginning on the date of completion of the IPO, March 13, 2023, and ending 180 days from such date;
- “*LTIP*” refer to the Atlas Energy Solutions Inc. Long Term Incentive Plan, adopted by the Board in March 2023;
- “*Master Reorganization Agreement*” refer to that certain Master Reorganization Agreement, dated July 31, 2023, among the Company, Old Atlas, PubCo Merger Sub, Atlas Operating, Opco Merger Sub and Holdings;
- “*Mergers*” refer to the PubCo Merger and Opco Merger, collectively;
- “*NYSE*” refer to The New York Stock Exchange;
- “*Old Atlas*” refer to AESI Holdings Inc., a Delaware corporation and the Company’s public company predecessor (f/k/a Atlas Energy Solutions Inc.);
- “*Old Atlas Board*” refer to the board of directors of Old Atlas;
- “*Old Atlas Class A Common Stock*” refer to shares of Class A common stock, par value \$0.01 per share, of Old Atlas;
- “*Old Atlas Class B Common Stock*” refer to shares of Class B common stock, par value \$0.01 per share, of Old Atlas;
- “*Old Atlas Common Stock*” refer to the Old Atlas Class A Common Stock and Old Atlas Class B Common Stock, collectively;
- “*Opco Merger*” refer to the merger of Opco Merger Sub with and into Atlas Operating, with Atlas Operating continuing as the surviving company, pursuant to the Master Reorganization Agreement;
- “*Opco Merger Sub*” refer to Atlas Operating Merger Sub, LLC, a Delaware limited liability company;
- “*OPEC+*” refer to the Organization of Petroleum Exporting Countries and other oil producing nations;
- “*Operating Units*” refer to membership interests in Atlas Operating;
- “*Original Registration Rights Agreement*” refer to that certain Registration Rights Agreement, dated March 8, 2023, by and among Old Atlas and certain Legacy Owners;
- “*Original Stockholders’ Agreement*” refer to that certain Stockholders’ Agreement, dated March 8, 2023, by and among Old Atlas and the Principal Stockholders;

- “*Previous Atlas Operating LLC Agreement*” refer to the Amended and Restated Limited Liability Company Agreement of Atlas Operating, dated March 8, 2023;
- “*Principal Stockholders*” refer to certain stockholders party to the A&R Stockholders’ Agreement or the Original Stockholders’ Agreement, as applicable;
- “*PubCo Merger Sub*” refer to AESI Merger Sub Inc., a Delaware corporation;
- “*PubCo Merger*” refer to the merger of PubCo Merger Sub with and into Old Atlas, with Old Atlas continuing as the surviving corporation and a wholly-owned subsidiary of the Company, pursuant to the Master Reorganization Agreement;
- “*Sarbanes-Oxley Act*” refer to the Sarbanes-Oxley Act of 2002, as amended;
- “*Sealy Smith*” refer to The Sealy & Smith Foundation;
- “*SEC*” refer to the U.S. Securities and Exchange Commission;
- “*Second A&R Atlas Operating LLC Agreement*” refer to the Second Amended and Restated Limited Liability Company Agreement of Atlas Operating, dated October 2, 2023;
- “*Securities Act*” refer to the Securities Act of 1933, as amended;
- “*Stonebriar*” refer to Stonebriar Commercial Finance LLC;
- “*TCEQ*” refer to the Texas Commission on Environmental Quality;
- “*Up-C Simplification*” refer to the transactions contemplated by the Master Reorganization Agreement, including the Mergers; and
- “*USFWS*” refer to the U.S. Fish and Wildlife Service.

CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report contains forward-looking statements that are subject to risks and uncertainties. All statements, other than statements of historical fact included in this Annual Report, regarding our strategy, future operations, financial position, estimated revenues and losses, projected costs, prospects, plans and objectives of management are forward-looking statements. Additionally the information in this Annual Report includes forward-looking statements related to the recently-announced Hi-Crush Transaction (as defined in Item 7. “Management’s Discussion and Analysis of Financial Condition and Results of Operations.—*Recent Developments*”). When used in this Report, the words “may,” “forecast,” “continue,” “could,” “would,” “will,” “plan,” “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 our 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 in Item 1A. “Risk Factors” included in this Annual Report. By their nature, forward-looking statements involve known and unknown risks and uncertainties because they relate to events and depend on circumstances that may or may not occur in the future. Although we believe that the forward-looking statements contained in this Annual Report are based on reasonable assumptions, you should be aware that many factors could affect our actual financial results or results of operations and could cause actual results to differ materially from those in such forward-looking statements, including but not limited to:

- the completion of the Hi-Crush Transaction on the anticipated terms and timing, or at all;
- our ability to successfully integrate the business of Hi-Crush Inc., a Delaware corporation (“Hi-Crush”), following completion of the Hi-Crush Transaction;
- higher than expected costs to operate our proppant production and processing facilities and develop the Dune Express (as defined below);
- the amount of proppant we are able to produce, which could be adversely affected by, among other things, operating difficulties and unusual or unfavorable geologic conditions;
- the volume of proppant we are able to sell and our ability to enter into supply contracts for our proppant on acceptable terms;
- the prices we are able to charge, and the margins we are able to realize, from our proppant sales;
- the demand for and price of proppant, particularly in the Permian Basin;
- the success of our electric dredging transition efforts;
- fluctuations in the demand for certain grades of proppant;
- the domestic and foreign supply of and demand for oil and natural gas;
- the effects of actions by, or disputes among or between, members of OPEC+ with respect to production levels or other matters related to the prices of oil and natural gas;
- changes in the price and availability of natural gas, diesel fuel or electricity that we use as fuel sources for our proppant production facilities and related equipment;
- the availability of capital and our liquidity;
- the level of competition from other companies;
- pending legal or environmental matters;
- changes in laws and regulations (or the interpretation thereof) or increased public scrutiny related to the proppant production and oil and natural gas industries, silica dust exposure or the environment;
- facility shutdowns in response to environmental regulatory actions;
- technical difficulties or failures;
- liability or operational disruptions due to pit-wall or pond failure, environmental hazards, fires, explosions, chemical mishandling or other industrial accidents;
- unanticipated ground, grade or water conditions;
- inability to obtain government approvals or acquire or maintain necessary permits or mining, access or water rights;
- changes in the price and availability of transportation services;

- inability of our customers to take delivery;
- difficulty collecting on accounts receivable;
- the level of completion activity in the oil and natural gas industry;
- inability to obtain necessary production equipment or replacement parts;
- the amount of water available for processing;
- any planned or future expansion projects or capital expenditures;
- our ability to finance equipment, working capital and capital expenditures;
- inability to successfully grow organically, including through future land acquisitions;
- inaccuracies in estimates of volumes and qualities of our frac sand reserves;
- failure to meet our minimum delivery requirements under our supply agreements;
- material nonpayment or nonperformance by any of our significant customers;
- development of either effective alternative proppants or new processes that replace hydraulic fracturing;
- our ability to borrow funds and access the capital markets;
- our ability to comply with covenants contained in our debt instruments;
- the potential deterioration of our customers' financial condition, including defaults resulting from actual or potential insolvencies;
- changes in global political or economic conditions, including sustained inflation as well as financial market instability or disruptions to the banking system due to bank failures, both generally and in the markets we serve;
- the impact of geopolitical developments and tensions, war and uncertainty in oil-producing countries (including the invasion of Ukraine by Russia, the Israel-Hamas war, continued instability in the Middle East, including from the Houthi rebels in Yemen, and any related political or economic responses and counter-responses or otherwise by various global actors or the general effect on the global economy);
- health epidemics, such as the ongoing COVID-19 pandemic, natural disasters or inclement or hazardous weather conditions, including but not limited to cold weather, droughts, flooding, tornadoes and the physical impacts of climate change;
- physical, electronic and cybersecurity breaches;
- the effects of litigation;
- plans, objectives, expectations and intentions described in this Annual Report that are not historical; and
- other factors discussed elsewhere in this Annual Report, including in Item 1A. "Risk Factors."

We caution you that these forward-looking statements are subject to numerous risks and uncertainties, most of which are difficult to predict and many of which are beyond our control. These risks include, but are not limited to, the risks described in Item 1A. "Risk Factors" in this Annual Report.

You are cautioned not to place undue reliance on any forward-looking statements, which speak only as of the date of this Annual Report. Should one or more of the risks or uncertainties described in this Annual Report occur, or should underlying assumptions prove incorrect, our actual results and plans could differ materially from those expressed in any forward-looking statements. All forward-looking statements, expressed or implied, included in this Annual 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 to reflect events or circumstances after the date of this Annual Report.

SUMMARY OF RISK FACTORS

This summary briefly lists the principal risks and uncertainties facing our business, which are only a select portion of those risks. A more complete discussion of those risks and uncertainties is set forth in Item 1A. "Risk Factors." Additional risks not presently known to us or that we currently deem immaterial may also affect us. If any of these risks occur, our business, financial condition or results of operations could be materially and adversely affected. Our business is subject to, among others, the following principal risks and uncertainties:

Risks Related to Our Business and Operations

- the level of activity in the oil and natural gas industries;
- the cyclical nature of our customers' businesses and the oil and natural gas industry;
- decreased demand for proppant, the development of technically- and cost-effective alternative proppants or new processes to replace hydraulic fracturing;
- our ability to succeed in competitive markets and on our ability to appropriately react to market fluctuations including price volatility;
- increasing costs, lack of dependability or availability, or an oversupply of transportation services or infrastructure;
- operational hazards and inherent risks;
- potential inability to acquire adequate supplies of water for our dredging operations;
- failure to maintain effective quality control systems at our mining and production facilities;
- environmental and industrial accidents and operational breakdowns;
- the complex and challenging nature of the development of the Dune Express;
- increased attention to ESG and conservation matters;
- loss of or inability to attract and retain members of our workforce;
- a shortage of skilled labor or rising labor costs in the excavation industry;
- inaccuracies in our estimates of sand reserves and resource deposits, or deficiencies in our title to those deposits;
- adverse developments at any of our three production facilities;
- an increase in the price or a significant interruption in the supply of natural gas and electricity or any other energy sources necessary to our continued operations;
- the loss of or a significant reduction in purchases by our largest customers;
- our and our customers' ability to obtain and maintain necessary permits;
- our inability to take advantage of increasing prices for proppant due to the terms of our supply agreements;
- our inability to meet our minimum proppant delivery requirements under our supply agreements;
- our operational concentration in the Permian Basin;
- complexities involved in the software and technology systems that need to be developed in connection with our autonomous trucking initiative;
- undetected defects, errors or bugs in the hardware or software related to our autonomous driving technology, when deployed;
- unauthorized control or manipulation of the systems in our autonomous proppant-delivery vehicles;
- natural disasters and unusual weather conditions;
- failure of any acquisitions, dispositions and investments to result in the anticipated benefits;

Risks Related to Our Financial Condition

- the impact of our indebtedness on our financial flexibility and our competitive position;
- our ability to service all of our indebtedness and financial commitments;
- the inability to obtain needed capital or financing, on satisfactory terms, or at all;

Risks Related to Our Organizational Structure and Ownership of Our Common Stock

- our potential future reduction or suspension of our dividend;
- volatility in our stock prices and trading volumes;
- the Principal Stockholders' ability to direct the voting of a significant proportion of the Common Stock;
- the loss of anticipated net cash tax savings as a result of the Up-C Simplification;
- our status as an "emerging growth company";
- our potential inability to offer equity consideration in acquisitive transactions on a tax-deferred basis;
- public and investor sentiment towards climate change, fossil fuels and other ESG matters;

Risks Related to Environmental, Mining and Other Regulations

- silica-related health issues and related regulation, litigation and legislation;
- legislative and regulatory initiatives relating to hydraulic fracturing and the potential for related litigation;
- environmental and natural resources regulations that impose risks of significant costs and liabilities;
- risks related to climate change, including regulatory, political, litigation and financial risks;
- operational restrictions intended to protect certain species of wildlife;
- restrictions on oil and natural gas development on federal lands;
- regulations that impose stringent occupational health and safety standards on our operations;
- risks related to obtaining, maintaining, and complying with permits necessary for the operation of our business.

Risks Related to the Hi-Crush Transaction

- the number of conditions and approvals which may delay or reduce the anticipated benefit of the Hi-Crush Transaction, result in additional expenditures of money and resources, or result in termination of the Merger Agreement;
- risks related to the anticipated benefits and synergies expected to result from the Hi-Crush Transaction;
- risks related to business uncertainties while the Hi-Crush Transaction is pending;
- risks related to the market price for our Common Stock following announcement of the Hi-Crush Transaction;
- the potential for securities class action and derivative lawsuits as a result of the Hi-Crush Transaction; and
- the diluted percentage ownership of our current stockholders following completion of the Hi-Crush Transaction.

PART I

Item 1. Business.

Overview

We are a low-cost producer of high-quality, locally sourced 100 mesh and 40/70 sand used as a proppant during the well completion process. Proppant is necessary to facilitate the recovery of hydrocarbons from oil and natural gas wells. One hundred percent of our sand reserves are located in Winkler and Ward Counties, Texas, within the Permian Basin, and our operations consist of proppant production and processing facilities, including two facilities near Kermit, Texas and a third facility near Monahans, Texas. As of December 31, 2023, our Kermit and Monahans facilities have a total combined annual production capacity of 16.5 million tons.

We also operate a logistics platform that is designed to increase the efficiency, safety and sustainability of the oil and natural gas industry within the Permian Basin. This includes our fleet of fit-for-purpose trucks and trailers and will include the Dune Express, an overland conveyor infrastructure solution currently under construction.

On March 13, 2023, Old Atlas completed its initial public offering of 18,000,000 shares of Old Atlas Class A Common Stock at a price of \$18.00 per share. The IPO generated \$324.0 million of gross proceeds and net proceeds of approximately \$291.2 million, after deducting underwriter discounts and commissions and estimated offering costs. In connection with the IPO, pursuant to a master reorganization agreement dated March 8, 2023, by and among Old Atlas, ASMC, Atlas LLC, Holdings, Atlas Operating, Holdings II, ASMC II, and Atlas Sand Merger Sub, LLC, a Delaware limited liability company, Old Atlas and the parties thereto completed certain restructuring transactions. As a result of these restructuring transactions, Atlas Operating became the wholly-owned operating subsidiary of Old Atlas, Atlas LLC became a wholly-owned subsidiary of Atlas Operating, and Atlas LLC continued to own all of the Company's operating assets.

On October 2, 2023, Old Atlas and the Company completed the Up-C Simplification as contemplated by the Master Reorganization Agreement in order to, among other things, reorganize under a new public holding company and eliminate Old Atlas's "up-C" and dual-class stock structure. Pursuant to the Master Reorganization Agreement, (a) PubCo Merger Sub merged with and into Old Atlas, as a result of which (i) each share of Old Atlas Class A Common Stock then issued and outstanding was exchanged for one share of Common Stock of the Company, (ii) all of the shares of Old Atlas Class B Common Stock then issued and outstanding were surrendered and cancelled for no consideration and (iii) Old Atlas survived the PubCo Merger as a direct, wholly-owned subsidiary of the Company; and (b) Opco Merger Sub merged with and into Atlas Operating, as a result of which (i) each Operating Unit then issued and outstanding, other than those Operating Units held by Old Atlas, was exchanged for one share of Common Stock of the Company and (ii) Atlas Operating became a wholly-owned subsidiary of the Company.

After completion of the Up-C Simplification, the Company replaced Old Atlas as the publicly held entity and, through its subsidiaries, conducts all of the operations previously conducted by Old Atlas, and Old Atlas remains the managing member of Atlas Operating.

Assets and Operations

We developed our Kermit and Monahans facilities as in-basin proppant mines on approximately 38,000 surface acres that we own or lease in Winkler and Ward Counties, Texas. We control 14,575 acres of large open-dune reserves and resources, which represent more than 70% of the total giant open dune acreage in the Winkler Sand Trend available for sand mining. The Monahans Dune consists of approximately 8,750 acres of premium open-dune reserves. Additionally, we have substantial off-dune acreage at Monahans that is not included in our estimated reserves or resources but that could be mined following our removal of material, such as soil and unusable sand, that lies above the useable sand and must be removed to excavate the useable sand, which we refer to as "overburden." The Kermit Dunes consists of approximately 5,826 acres of premium open-dune reserves.

Significant Innovation Projects

Second Kermit Facility

At the start of 2023, we had one Kermit facility and one Monahans facility, each of which was capable of producing 5.5 million tons of proppant annually. In response to the increase in market demand, and also in connection with the expansion of our logistics offering, we expanded our Kermit production capacity in 2023 by adding a new facility with 5.5 million tons of annual production capacity, for a combined total production capacity of 16.5 million tons annually as of December 31, 2023.

The Dune Express Electric Conveyor System

The Dune Express, which will originate at our Kermit facilities and stretch into the middle of the Northern Delaware Basin, will be the first long-haul proppant conveyor system in the world. Upon completion, we expect the Dune Express to be 42 miles in length, capable of transporting 13 million tons of proppant annually and to have approximately 85,000 tons of dry storage within the system. This conveyor system will be strategically located to deliver proppant to the producing region of the Delaware Basin. We expect the Dune Express to lower transportation cost and increase safety by removing trucks from public roadways, thus reducing traffic, accidents and fatalities on public roadways in the region.

We plan to install two permanent loadout facilities near the middle of the conveyor system close to the Texas side of the Texas-New Mexico state line and at the end of the Dune Express right-of-way on BLM land near the Lea-Eddy County line in New Mexico. The conveyor system will also utilize one or more “mobile” loadouts, which can be mobilized and relocated from time to time, to maximize delivery efficiencies particularly for operators pursuing a concentrated development plan in the area that is proximate to the conveyor system but not proximate to one of the two permanent loadouts connected to the system.

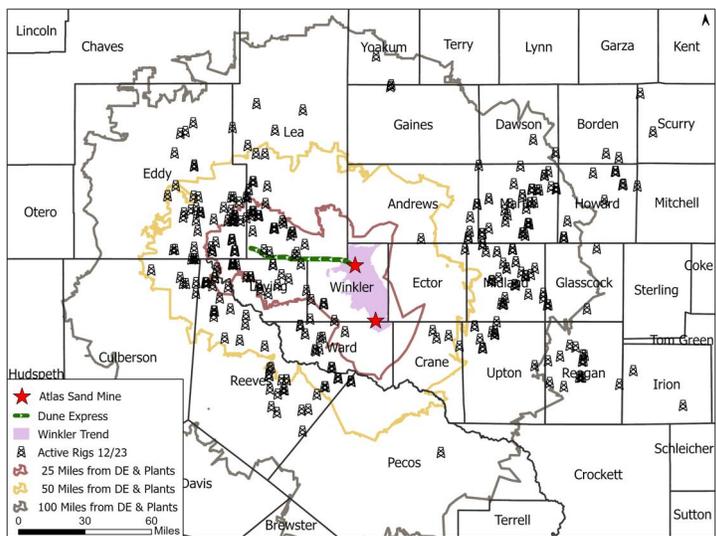
As of December 31, 2023, 90% of equipment and materials and 80% of installation services for construction of the Dune Express have been ordered and contracted. Additionally, we have cleared, graded and laid caliche on the vast majority of the right-of-way and have taken delivery of approximately 150 conveyor belt sections, equivalent to approximately 57 miles of total conveyor belt and over 100 miles of fiberoptic cable. The Dune Express is expected to be in service during the fourth quarter of 2024.

Wellsite Delivery Assets

Our existing logistics business utilizes third-party transportation contractors which we currently supplement with our own trucks and trailers. As of February 27, 2024, we added 120 trucks and 323 trailers to our fit-for-purpose trucking fleet, which we expect will improve our productivity, as measured by tons per truck that can be delivered daily, compared to the throughput performance of traditional trucking assets.

Map of Operations

The following map shows the locations of our Kermit and Monahans facilities in Winkler and Ward Counties, Texas, as well as the Dune Express route based on secured rights-of-ways and federal permits, alongside a recent snapshot of the rig count in the Permian Basin as of December 31, 2023:



Source: Enverus, Baker Hughes.

Our Kermit and Monahans facilities were built to produce high quality 40/70-mesh and 100-mesh sands, each of which is used extensively in upstream operations in the Permian Basin. Each facility was constructed with a modular design that provides us with the flexibility to expand any of the existing facilities to achieve incremental production capacity gains if such expansion were found to be necessary or desirable in light of customer demand, broader market conditions or other relevant considerations. Innovative plant design and large-scale operations facilitate low-cost operations and continuity on site. Redundancies were designed into our facilities to remove singular points of failure that could disrupt the production process, ensuring maximum reliability of proppant production and delivery. The facilities are capable of operating year-round and feature advanced safety designs, onsite water supply, power infrastructure and access to low-cost natural gas through connections to interstate natural gas lines. Collectively, our Kermit and Monahans facilities have a combined annual production capacity of 16.5 million tons, 85,000 tons of dry storage, 1,190,000 tons of wet storage and 17 loadout lanes.

Further, we benefit from the strategic locations of our facilities, proximal to major highways at the south and north ends of the Winkler Sand Trend. Our Kermit facilities are bisected by two state highways, while our Monahans facility is adjacent to two highways, one of which is Interstate 20, facilitating efficient transportation of our proppant to customers located at various points within the Permian Basin.

The operations of our sand facilities are managed and monitored in a highly automated manner from our command center in Austin, Texas. The remote ecosystem allows our employees to simultaneously manage processes at all facilities, resulting in personnel productivity gains.

Our Products and Services

Product

We serve the oil and gas end markets, and our sand reserves contain deposits of fine grade 40/70-mesh and 100-mesh sizes that API specifies for use in wellsite fracturing operations. We believe that this mix of finer grade sand reserves is in higher demand and meets current industry preferences. Based on the reserve report prepared by John T. Boyd Company, our independent mining engineers and geologists, as of December 31, 2023, we had 488.0 million tons of proven and probable sand reserves at our Kermit and Monahans locations, and our reserves were composed of approximately 53% 40/70-mesh and 47% 70/140-mesh substrate sand. Based on our current total annual expected production capacity of approximately 16.5 million tons as of December 31, 2023, we estimate our reserve life to be approximately 31 years for our Kermit facilities and 29 years for our Monahans facility, as may be extended or adjusted for future conversions of measured, indicated or inferred resources to proven or probable reserves or any change to our production capacity. For more information regarding our mineral reserves, see Item 2. “Property.—Our Reserves.”

Proppant from our Kermit and Monahans facilities is stored in our onsite silos before transport and delivery by truck to customers’ well sites located primarily in the Delaware and Midland Basins. Our proppant is offered to our customers at the mine or as an integrated mine-to-wellhead solution.

Services

We provide transportation, storage solutions and contract labor services to companies in the oil and gas industry. Transportation services typically consist of transporting product from the plant facilities to the wellsite. The locations of the Kermit and Monahans facilities are within close proximity to well activity and enable us to deliver proppant directly to our customers’ wellheads using traditional pneumatic assets, portable silos, boxes or portable conveyance systems, reducing handling costs and delivery lead times.

Our Permits

We have obtained numerous federal, state and local permits required for operations at our Kermit and Monahans facilities. The Kermit and Monahans operations are predominantly regulated by the TCEQ with respect to environmental compliance. The predominant permitting requirement is an active New Source Review (“NSR”) permit for air pollution control. Both of our operations have a current NSR permit which is renewable next in 2028. Other permits held by our operations include Stormwater, Above Ground Storage Tank, Aggregate Production Operation, and a septic permit. A Spill Prevention, Control, and Countermeasure plan is also active at both locations.

While resources invested in securing permits are significant, this cost has not had a material adverse effect on our results of operations or financial condition. We cannot be certain that existing environmental laws and regulations will not be reinterpreted or revised or that new environmental laws and regulations will not be adopted or become applicable to us. Revised or additional environmental requirements that result in increased compliance costs or additional operating restrictions could have a material adverse effect on our business.

Environmental and Occupational Health and Safety Regulations

We are subject to stringent and complex federal, state and local laws and regulations governing the discharge of materials into the environment or otherwise relating to protection of worker health, safety and the environment and natural resources (including threatened and endangered species). Compliance with these laws and regulations may expose us to significant costs and liabilities and cause us to incur significant capital expenditures in our operations. Any failure to comply with these laws and regulations may result in the assessment of administrative, civil and criminal penalties, imposition of remedial obligations and the issuance of injunctions delaying or prohibiting operations. Certain environmental laws may impose strict, joint and several liability for remediation costs. Private parties may also have the right to pursue legal actions to enforce compliance as well as to seek damages for non-compliance with environmental laws and regulations or for personal injury or property damage. In addition, the trend in environmental regulation has been to place more restrictions on activities that may affect the environment, and thus, any changes in, or more stringent enforcement of, these laws and regulations that result in more stringent and costly pollution control equipment, the occurrence of delays in the permitting or performance of projects, or waste handling, storage, transport, disposal or remediation requirements could have an adverse effect on our operations and financial position.

We do not believe that compliance by us and our customers with federal, state or local environmental laws and regulations will have an adverse effect on our business, financial position or results of operations or cash flows. We cannot assure you, however, that future events, such as changes in existing laws or enforcement policies, the enactment or promulgation of new laws or regulations or the development or discovery of new facts or conditions adverse to our operations will not cause us to incur significant costs. The following is a discussion of material environmental and worker health and safety laws, as amended from time to time, that relate to our operations or those of our customers that could have an adverse effect on our business.

Worker & Community Health and Safety

We are subject to the requirements of the federal Occupational Safety and Health Administration (“OSHA”), and comparable state statutes that regulate the protection of the health and safety of workers. In addition, the OSHA hazard communication standard requires that information be maintained about hazardous materials used or produced in operations and that this information be provided to employees, state and local government authorities and the public. Similar obligations related to community safety are codified in the Emergency Planning & Community Right to Know Act, as authorized by the Superfund Amendments and Reauthorization Act. These laws and regulations are subject to frequent changes and any failure to comply with these laws could lead to the assertion of third-party claims against us, civil or criminal fines and changes in the way we operate our facilities, which one or more events could have an adverse effect on our financial position. We have an internal program of inspection designed to monitor and enforce compliance with worker safety requirements. Historically, our worker and community health and safety compliance costs have not had an adverse effect on our results of operations.

Air Emissions

Our operations and the operations of our customers are subject to the federal Clean Air Act (“CAA”) and related state and local laws, which restrict the emission of air pollutants and impose permitting, monitoring and reporting requirements on various sources. These regulatory programs may require preconstruction permitting, best available control technology analysis, the installation of emissions abatement equipment, modification of operational practices and obtaining permits or similar authorizations for our operations. Obtaining air emissions permits has the potential to delay the development or continued performance of our operations. Over the next several years, we may be required to incur certain capital expenditures for air pollution control equipment or to address air emissions-related issues as we expand our facilities or develop new ones. Changing and increasingly stricter requirements, future non-compliance or failure to maintain necessary permits or other authorizations could require us to incur substantial costs or suspend or terminate our operations. We could be subject to administrative, civil and criminal penalties as well as injunctive relief for noncompliance with air permits or other requirements of the CAA and comparable state laws and regulations.

Climate Change

In the United States, no comprehensive climate change legislation has been implemented at the federal level. However, following the U.S. Supreme Court finding that emissions of greenhouse gases (“GHGs”) constitute a pollutant under the CAA, the EPA has adopted regulations that, among other things, establish construction and operating permit reviews for emissions from certain large stationary sources, require the monitoring and annual reporting of GHG emissions from certain petroleum and natural gas system sources in the United States, and together with the Department of Transportation (the “DOT”), implement GHG emissions limits on vehicles manufactured for operation in the United States. In recent years the U.S. Congress has also considered legislation to reduce emissions of methane and carbon dioxide, two GHGs associated with the development and use of natural gas. Additionally, energy legislation and related regulatory initiatives have been and continue to be proposed that are relevant to GHG emissions issues. For example, the Inflation Reduction Act of 2022 (“IRA”) appropriated significant federal funding for renewable energy initiatives and, for the first time ever, imposed a fee (the implementation of which is currently under development by the EPA) on GHG emissions from certain facilities. The emissions fee and funding provisions of the law could increase the operating costs of our customers and accelerate the transition away from fossil fuels, which could in turn adversely affect our business and results of operations. Additionally, several U.S. states, either individually or in regional collaboration, have adopted or are considering adopting legislation, policies, or regulatory initiatives focused on GHG emissions reductions, including cap and trade programs, carbon taxes, performance standards, and reporting and monitoring programs. Internationally, the United Nations-sponsored Paris Agreement (“Paris Agreement”) requires member states to individually determine and submit non-binding emissions reduction targets every five years after 2020. President Biden recommitted the United States to the Paris Agreement and, in April 2021, announced a goal of reducing the United States’ emissions by 50-52% below 2005 levels by 2030. Various U.S. states and local governments have also publicly committed to furthering the goals of the Paris Agreement. The international community continues to gather annually to develop and negotiate international climate initiatives, pledges, and frameworks. The impacts of these orders, pledges, agreements and any legislation or regulation promulgated to fulfill the United States’ commitments under the Paris Agreement or other international agreements cannot be predicted at this time.

Domestically, President Biden highlighted addressing climate change as a priority of his administration and has issued several executive orders addressing climate change, published a strategic roadmap to net-zero emissions in the United States by 2050, “The Long-Term Strategy of the United States: Pathways to Net-Zero Greenhouse Gas Emissions by 2050,” and directed federal agencies to include climate change considerations into their decision-making processes. For example, the Biden Administration temporarily paused federal oil and gas leasing, and is currently pausing authorizations for new LNG exports to certain countries, for federal agency-led reviews of these programs, which incorporate climate-impact analyses.

Emerging climate-change focused legislation and regulation, policy directives, and related initiatives have the potential to increase our and our customers’ operating costs and reduce demand for our customers’ products and thereby our services. Further, any limitations or restrictions on the development of fossil fuel-specific infrastructure and our customers’ ability to access capital, develop their assets, and market their products may adversely affect our business and results of operations. For more information on applicable climate change-related regulatory matters, developments and risks affecting our business, please see our “Risk Factors—Risks Related to Environmental, Mining and Other Regulations—*Our and our customers’ operations are subject to a number of risks arising out of the threat of climate change, including regulatory, political, litigation and financial risks, which could result in increased operating and capital costs for our customers and reduced demand for our products and services*” and “Risk Factors—Risks Related to Our Business and Operations—*Increased stakeholder and market attention to ESG and conservation matters may adversely impact our business and access to capital.*”

Water Discharges

The federal Clean Water Act (“CWA”) and analogous state laws impose restrictions and strict controls with respect to the discharge of pollutants, including spills and leaks of oil and other substances, into waters of the United States. The discharge of pollutants into regulated waters, including jurisdictional wetlands, is prohibited, except in accordance with the terms of a permit issued by the EPA or an analogous state agency. The CWA also prohibits the discharge of dredge and fill material in regulated waters, including wetlands, unless authorized by a permit issued by the U.S. Army Corps of Engineers (the “Corps”). Federal and state regulatory agencies can impose administrative, civil and criminal penalties, as well as require remedial or mitigation measures, for non-compliance with discharge permits or other requirements of the CWA and analogous state laws and regulations. In the event of an unauthorized discharge of wastes, we may be liable for penalties and costs.

The scope of waters subject to federal jurisdiction has been subject to substantial controversy. In 2015 and 2020, respectively, the Obama and Trump Administrations each published final rules attempting to define the federal jurisdictional reach over waters of the United States (“WOTUS”). However, both of these rulemakings were subject to legal challenge. In January 2023, the EPA and the Corps published a final rule based on the pre-2015 definition of WOTUS, with updates to incorporate existing Supreme Court decisions and regulatory guidance. However, the January 2023 rule was challenged and is currently enjoined in 27 states. In May 2023, the U.S. Supreme Court released its opinion in *Sackett v. EPA*, which involved issues relating to the legal tests used to determine whether wetlands qualify as WOTUS. The *Sackett* decision invalidated certain parts of the January 2023 rule and significantly narrowed its scope, resulting in a revised rule being issued in September 2023. However, due to the injunction on the January 2023 rule, the implementation of the September 2023 rule currently varies by state. In the 27 states subject to the injunction, the agencies are interpreting the definition of WOTUS consistent with the pre-2015 regulatory regime and the changes made by the *Sackett* decision, which utilizes the “continuous surface connection” test to determine if wetlands qualify as WOTUS. In the remaining 23 states, the agencies are implementing the September 2023 rule, which did not define the term “continuous surface connection.” Therefore, some uncertainty remains as to how broadly the September 2023 rule and the *Sackett* decision will be interpreted by the agencies. To the extent the implementation of the final rule, results of the litigation or any action further expands the scope of the CWA’s jurisdiction in areas where we operate, we could face increased costs and delays with respect to obtaining permits for dredge and fill activities in wetland areas.

Additionally, the process for obtaining permits has the potential to delay our operations. Spill prevention, control and countermeasure requirements of federal laws require appropriate containment berms and similar structures to help prevent the contamination of navigable waters by a petroleum hydrocarbon tank spill, rupture or leak. In addition, the CWA and analogous state laws require individual permits or coverage under general permits for discharges of storm water runoff from certain types of facilities. Federal and state regulatory agencies can impose administrative, civil and criminal penalties as well as other enforcement mechanisms for non-compliance with discharge permits or other requirements of the CWA and analogous state laws and regulations. The CWA and analogous state laws provide for administrative, civil and criminal penalties for unauthorized discharges and, impose rigorous requirements for spill prevention and response planning, as well as substantial potential liability for the costs of removal, remediation, and damages in connection with any unauthorized discharges.

Hydraulic Fracturing

We supply proppant to the oil and natural gas industry. Hydraulic fracturing is an important common practice that is used to stimulate production of oil and natural gas from low permeability hydrocarbon bearing subsurface rock formations. The hydraulic fracturing process involves the injection of water, proppant and chemicals under pressure into the formation to fracture the surrounding rock, increase permeability and stimulate production. Although we do not directly engage in hydraulic fracturing activities, our customers purchase our proppant for use in their hydraulic fracturing activities. Hydraulic fracturing is typically regulated by state oil and natural gas commissions and similar agencies; however, the EPA has asserted jurisdiction over hydraulic fracturing activities in some circumstances. Separately, the EPA released a final report in December 2016 assessing the potential adverse impact of hydraulic fracturing to water resources, concluding that activities relating to water consumption, use and disposal associated with hydraulic fracturing may impact drinking water resources under certain circumstances. To date, EPA has taken no further action in response to the December 2016 report. Some states have adopted, and other states are considering adopting, regulations that could impose new or more stringent permitting, disclosure or well construction requirements on hydraulic fracturing operations. State and federal regulatory agencies have also recently focused on a possible connection between the operation of injection wells used for oil and natural gas waste disposal and seismic activity. Similar concerns have been raised that hydraulic fracturing may also contribute to seismic activity. Aside from state laws, local land use restrictions may restrict drilling in general or hydraulic fracturing in particular. Municipalities may adopt local ordinances attempting to prohibit hydraulic fracturing altogether or, at a minimum, allow such fracturing processes within their jurisdictions to proceed but regulating the time, place and manner of those processes. At the same time, certain environmental groups have suggested that additional laws may be needed to more closely and uniformly limit or otherwise regulate the hydraulic fracturing process, and legislation has been proposed by some members of Congress to provide for such regulation.

The adoption of new laws or regulations at the federal or state levels imposing reporting obligations on, or otherwise limiting or delaying, the hydraulic fracturing process could make it more difficult to complete natural gas wells, increase our customers' costs of compliance and doing business and otherwise adversely affect the hydraulic fracturing services they perform, which could negatively impact demand for our proppant. In addition, heightened political, regulatory and public scrutiny of hydraulic fracturing practices could expose us or our customers to increased legal and regulatory proceedings, which could be time-consuming, costly or result in substantial legal liability or significant reputational harm. We could be directly affected by adverse litigation involving us, or indirectly affected if the cost of compliance limits the ability of our customers to operate. Such costs and scrutiny could directly or indirectly, through reduced demand for our proppant, have an adverse effect on our business, financial condition and results of operations.

Non-Hazardous and Hazardous Wastes

The Resource Conservation and Recovery Act ("RCRA") and comparable state laws control the management and disposal of hazardous and non-hazardous waste. These laws and regulations govern the generation, storage, treatment, transfer and disposal of wastes that we generate. In the course of our operations, we generate waste that are regulated as non-hazardous wastes and hazardous wastes, obligating us to comply with applicable standards relating to the management and disposal of such wastes. In addition, drilling fluids, produced waters and most of the other wastes associated with the exploration, development and production of oil or natural gas, if properly handled, are currently exempt from regulation as hazardous waste under RCRA and, instead, are regulated under RCRA's less stringent non-hazardous waste provisions, state laws or other federal laws. However, it is possible that certain oil and natural gas drilling and production wastes now classified as non-hazardous could be classified as hazardous wastes in the future. A loss of the RCRA exclusion for drilling fluids, produced waters and related wastes could result in an increase in our customers' costs to manage and dispose of generated wastes and a corresponding decrease in their drilling operations, which developments could have an adverse effect on our business.

Site Remediation

The Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA") and comparable state laws impose strict, joint and several liability on certain classes of persons that contributed to the release of a hazardous substance into the environment without regard to fault or the legality of the original conduct. These persons include the owner and operator of a disposal site where a hazardous substance release occurred and any company that transported, disposed of or arranged for the transport or disposal of hazardous substances released at the site. Under CERCLA, such persons may be liable for the costs of remediating the hazardous substances that have been released into the environment, for damages to natural resources and for the costs of certain health studies. In addition, where contamination may be present, it is not uncommon for the neighboring landowners and other third parties to file claims for personal injury, property damage and recovery of response costs. We have not received notification that we may be potentially responsible for cleanup costs under CERCLA at any site.

Endangered Species

The ESA restricts activities that may affect endangered or threatened species or their habitats. Similar protections are offered to migratory birds under the Migratory Bird Treaty Act (“MBTA”) and analogous state laws. Compliance with these laws may require the implementation of avoidance or mitigation measures or time and place restrictions on certain operations during migration or breeding seasons. The listing of new species as endangered or threatened and the designation of such species’ habitat as critical under the ESA or related laws in areas where we or our customers operate, we or our customers may incur increased costs arising from required species protection measures or experience operational delays or limitations, either of which could adversely affect our and our customers operations or reduce demand for our services. For more information regarding risks associated with compliance with endangered species laws and regulations, including discussion of certain risks related to the DSL and lesser prairie chicken, please see our “Risk Factors—Risks Related to Environmental, Mining and Other Regulations—*Restrictions on our operations and those of our customers intended to protect certain species of wildlife could have an adverse impact on our ability to expand some of our existing operations or limit our customers’ ability to develop new oil and natural gas wells.*”

Mining and Workplace Safety

Our proppant production operations will be subject to mining safety regulation. Mine Safety and Health Administration (“MSHA”) is the primary regulatory organization governing proppant mining and processing. Accordingly, MSHA regulates quarries, surface mines, underground mines and the industrial mineral processing facilities associated with and located at quarries and mines. The mission of MSHA is to administer the provisions of the Federal Mine Safety and Health Act of 1977 and to enforce compliance with mandatory miner safety and health standards. As part of MSHA’s oversight, representatives perform at least two unannounced inspections annually for each above-ground facility. Failure to comply with MSHA’s regulations could result in the imposition of civil or criminal penalties and fines.

In addition, our operations are subject to a number of federal and state laws and regulations, including the OSHA and comparable state statutes, whose purpose is to protect the health and safety of workers. Also, OSHA hazard communication standard, the EPA community right-to-know regulations under Title III of the federal Superfund Amendment and Reauthorization Act and comparable state statutes require that information be maintained concerning hazardous materials used or produced in operations and that this information be provided to employees, state and local government authorities and citizens. Violations of OSHA can result in OSHA civil and criminal enforcement. Moreover, the inhalation of respirable crystalline silica is associated with the lung disease silicosis. There is recent evidence of an association between crystalline silica exposure or silicosis and lung cancer and a possible association with other diseases, including immune system disorders such as scleroderma. These health risks have been, and may continue to be, a significant issue confronting the silica industry. In response to these potential concerns, OSHA promulgated a new rule seeking to lower work exposure to crystalline silica. The rule became effective for general industry in 2018. In June 2022, MSHA launched a new enforcement initiative to better protect U.S. miners from health hazards resulting from repeated overexposure to respirable crystalline silica. For more information, please see our “Risk Factors—Risks Related to Environmental, Mining and Other Regulations—*Silica-related health issues and legislation, including compliance with existing or future regulations relating to respirable crystalline silica, or litigation could have an adverse effect on our business, reputation or results of operations.*”

In addition, concerns over silicosis and other potential adverse health effects, as well as concerns regarding potential liability from the use of silica, may have the effect of discouraging our customers’ use of our silica products and discouraging our insurers from risk. The actual or perceived health risks of mining, processing and handling silica could adversely affect silica producers, including us, through reduced use of silica products, the threat of product liability or employee lawsuits, increased scrutiny by federal, state and local regulatory authorities of us and our customers or reduced financing sources available to the silica industry.

Environmental Reviews

If permits or other authorizations from the federal government are required, our future operations may be subject to broad environmental review under the National Environmental Policy Act, as amended (“NEPA”). NEPA requires federal agencies to evaluate the environmental impact of all “major federal actions” significantly affecting the quality of the human environment. The granting of a federal permit for a major development project, such as a proppant production operations, may be considered a “major federal action” that requires review under NEPA. As part of this evaluation, the federal agency considers a broad array of environmental impacts, including, among other things, impacts on air quality, water quality, wildlife (including threatened and endangered species), historic and archeological resources, geology, socioeconomics and aesthetics. NEPA also requires the consideration of alternatives to the project. The NEPA review process, especially the preparation of a full environmental impact statement, can be time consuming and expensive. The purpose of the NEPA review process is to inform federal agencies’ decision-making on whether federal approval should be granted for a project and to provide the public with an opportunity to comment on the environmental impacts of a proposed project. Though NEPA requires only that an environmental evaluation be conducted and does not mandate a particular result, a federal agency could decide to deny a permit or impose certain conditions on its approval, based on its environmental review under NEPA, or a third party could challenge the adequacy of a NEPA review and thereby delay the issuance of a federal permit or approval, which could have an adverse effect on our business. For more information, please see “Risk Factors—Risks Related to Environmental, Mining and Other Regulations—*Any restrictions on oil and natural gas development on federal lands have the potential to adversely impact our operations and the operations of our customers.*”

Motor Carrier Operations

Among the services we provide, we operate as a motor carrier and therefore are subject to regulation by the DOT and various state agencies. These regulatory authorities exercise broad powers, governing activities such as the authorization to engage in motor carrier operations; regulatory safety; hazardous materials labeling, placarding and marking; financial reporting; and certain mergers, consolidations and acquisitions. There are additional regulations specifically relating to the trucking industry, including testing and specification of equipment and product handling requirements. The trucking industry is subject to possible regulatory and legislative changes that may affect the economics of the industry by requiring changes in operating practices or by changing the demand for common or contract carrier services or the cost of providing truckload services. Some of these possible changes include increasingly stringent environmental regulations, changes in the hours of service regulations which govern the amount of time a driver may drive in any specific period and requiring onboard black box recorder devices or limits on vehicle weight and size.

Interstate motor carrier operations are subject to safety requirements prescribed by the DOT. Intrastate motor carrier operations are subject to safety regulations that often mirror federal regulations. Such matters as weight and dimension of equipment are also subject to federal and state regulations. The DOT regulations also mandate drug testing of drivers. From time to time, various legislative proposals are introduced, including proposals to increase federal, state or local taxes, including taxes on motor fuels, which may increase our costs or adversely impact the recruitment of drivers. We cannot predict whether, or in what form, any increase in such taxes applicable to us will be enacted.

State and Local Regulation

We are subject to a variety of state and local environmental review and permitting requirements. In some cases, the state environmental review may be more stringent than the federal review. Our operations may require state-law based permits in addition to federal permits, requiring state agencies to consider a range of issues, many the same as federal agencies, including, among other things, a project's impact on wildlife and their habitats, historic and archaeological sites, aesthetics, agricultural operations and scenic areas. The development of new sites and our existing operations also are subject to a variety of local environmental and regulatory requirements, including land use, zoning, building and transportation requirements.

Demand for proppant in the oil and natural gas industry drove a significant increase in the production of proppant. As a result, some local communities expressed concern regarding silica sand mining operations. These concerns have generally included exposure to ambient silica sand dust, truck traffic, water usage and blasting. In response, certain state and local communities have developed or are in the process of developing regulations or zoning restrictions intended to minimize dust from becoming airborne, control the flow of truck traffic, significantly curtail the amount of practicable area for proppant production activities, provide compensation to local residents for potential impacts of proppant production activities and, in some cases, ban issuance of new permits for proppant production activities. To date, we have not experienced any material impact to the development of our proppant production facilities and do not anticipate an impact on future operations as a result of these types of concerns. We would expect this trend to continue as oil and natural gas production increases.

Competition

The market in which we operate is highly competitive. We compete with both public and private large, national producers and small, regional or local in-basin proppant providers, such as Covia Corp., High Roller Sand, Black Mountain Sand, Freedom Proppants, Hi-Crush, U.S. Silica Inc., Alpine Silica, Badger Mining Corporation, Vista Proppants and Logistics and Capital Sand Company, among others. Competition in the proppant production industry is based on a number of factors, including product and service quality, reliability of the service provider, the geographic location of facilities and the associated logistics costs of transporting proppant from the supplier to the customer, innovation, etc.

Human Capital and Employees

Our employees are a critical asset to our innovative culture and overall success. We are focused on sustaining a high-performance culture through attracting, engaging, developing, retaining and rewarding top talent. We strive to enhance the economic and social wellbeing of our employees and the communities in which we operate. We seek to provide a welcoming, inclusive environment for our workforce, with best-in-class training and career development opportunities to enable employees to thrive and achieve their career goals.

As of December 31, 2023, we had a total of 490 employees, of which 111 service our corporate headquarters and 379 work in field locations. None of our employees are represented by labor unions or subject to collective bargaining agreements. We consider our employee relations to be good.

Health and Safety

The health, safety, and wellbeing of our employees is of the utmost importance. We believe that we are an industry leader with a proven track record in safety.

We provide employees the option to participate in health and welfare plans, including medical, dental, life, accidental death and dismemberment and short-term and long-term disability insurance plans. We also offer a number of health and wellness programs, including telemedicine, health screens and fitness reimbursement as well as access to the Employee Assistance Program which provides employees and their family members access to professional providers to help navigate challenging life events 24 hours a day, 365 days a year.

Available Information

Our headquarters office is located at 5918 W. Courtyard Dr., Suite 500, Austin, TX 78730, and our telephone number at that address is (512) 220-1200. Our website address is <https://atlas.energy>. Our periodic reports and other information filed with or furnished to the SEC, including our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, as well as any amendments to such filings, are available free of charge through our website under the “Investors” link as soon as reasonably practicable after those reports and other information are electronically filed with or furnished to the SEC. The SEC also maintains an internet website at www.sec.gov that contains reports, proxy and information statements and other information regarding issuers, including us, that file electronically with the SEC. In addition to its reports filed or furnished with the SEC, the Company publicly discloses material information from time to time in its press releases, at annual meetings of shareholders, in publicly accessible conferences and Investor presentations, and through its website (principally in its Press Room and Investor Relations pages). Information on our website or any other website is not incorporated by reference into this Annual Report and does not constitute a part of this Annual Report.

Item 1A. Risk Factors.

There are numerous factors that affect our business and operating results, many of which are beyond our control. The following is a summary of significant factors that might cause our future results to differ materially from those currently expected. The risks described below are not the only risks facing our Company. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our business operations. If any of these risks actually occur, our business, financial position, operating results, cash flows, reserves or our ability to pay our debts and other liabilities could suffer, the trading price and liquidity of our securities could decline and you may lose all or part of your investment in our securities.

Risks Related to Our Business and Operations

Our proppant production and logistics operations depend on the level of activity in the oil and natural gas industries, which experience substantial volatility.

Our operations that produce and transport proppant are materially dependent on the levels of activity in oil and natural gas exploration, development and production. More specifically, the demand for the proppant we produce is closely related to the number of oil and natural gas wells completed in geological formations where sand-based proppant is used in fracture treatments. These activity levels are affected by both short- and long-term trends in oil and natural gas prices. In recent years, oil and natural gas prices and, therefore, the level of exploration, development and production activity, have experienced significant volatility.

When oil and natural gas prices decrease, exploration and production companies may reduce their exploration, development, production and well completion activities. During such periods, demand for our products and services, which supply oil and natural gas wells, including our transportation and logistics solutions, may decline, and may lead to a decline in the market price of proppant, if the supply of proppant is not similarly reduced. When demand for proppant increases, there may not be a corresponding increase in the prices for our products or our customers may not increase use of our products, which could have an adverse effect on our business, financial condition and results of operations.

Worldwide economic, political and military events, including war, terrorist activity, events in the Middle East and initiatives by OPEC+, have contributed, and are likely to continue to contribute, to oil and natural gas price volatility. For example, the ongoing armed conflicts between Russia and Ukraine and Israel and Hamas and the continuation of, and the escalation in the severity of, these conflicts has led to extreme regional instability, caused dramatic fluctuations in global financial markets and has increased the level of global economic uncertainty, including uncertainty about world-wide oil supply and demand, which in turn has caused increased volatility in commodity prices. Further, the Houthi movement, which controls parts of Yemen, has targeted and launched numerous attacks on Israeli, American and international commercial marine vessels in the Red Sea as the ships approach the Suez Canal, resulting in many shipping companies re-routing to avoid the region altogether and worsening existing supply chain issues, including delays in supplier deliveries, extended lead times and increased cost of freight, impacts to the shipping of oil and gas, insurance and materials. The potential for conflict with Iran, a major oil producer, the Houthi movement in Yemen or the Hezbollah movement in Lebanon has increased as a result of continued, increasing hostilities in the Middle East.

Additionally, warmer than normal winters in North America and other weather patterns may adversely impact the short-term demand for natural gas and, therefore, demand for our products. Reduction in demand for natural gas to generate electricity could also adversely impact the demand for proppant. In addition, any future decrease in the rate at which oil and natural gas reserves are discovered or developed, whether due to increased governmental regulation, limitations on exploration and drilling activity, technological innovations that result in new processes for oil and natural gas production that do not require proppant or other factors, could adversely affect the demand for our products, even in a stronger oil and natural gas price environment. Moreover, the energy transition to a low carbon economy, increased deployment of renewable power generation, renewable fuels and electric vehicles all have the potential to reduce demand for oil and natural gas and consequently the services we provide. The continued or future occurrence of any of these risks could have an adverse effect on our business, financial condition and results of operations.

Our business is subject to the cyclical nature of our customers' businesses and on the oil and natural gas industry.

Our business is directly affected by capital spending to explore for, develop and produce oil and natural gas in the United States. The oil and natural gas industry is cyclical and historically has experienced periodic downturns in activity. During periods of economic slowdown in one or more of the industries or geographic regions we serve or in the worldwide economy, our customers often reduce their production and capital expenditures by deferring or canceling pending projects, even if such customers are not experiencing financial difficulties. These developments can have an adverse effect on sales of our products and our results of operations.

Weakness in the industries we serve has had, and may in the future have, an adverse effect on our sales and results of operations. A continued or renewed economic downturn in one or more of the industries that we serve, or in the worldwide economy, could cause actual results of operations to differ materially from historical and expected results.

Industry conditions are influenced by numerous factors over which we have no control, including:

- expected economic returns to E&P companies from new well completions;
- domestic and foreign economic conditions and supply of and demand for oil and natural gas;

- the level of prices, and expectations about future prices, of oil and natural gas;
- the level of global oil and natural gas E&P and inventories;
- federal, state and local regulation of hydraulic fracturing and E&P activities;
- United States federal, tribal, state and local and non-United States governmental laws, regulations and taxes, including the policies of governments regarding the exploration for and production and development of their oil and natural gas reserves;
- changes in the transportation industry that services our business, including the price and availability of transportation;
- political and economic conditions in oil and natural gas producing countries, including uncertainty or instability resulting from civil unrest, terrorism or war, such as the current conflicts between Russia and Ukraine, Israel and Hamas and other instability in the Middle East, including from the Houthi rebels in Yemen;
- actions by members of OPEC+ with respect to oil production levels and announcements of potential changes in such levels, including the failure of such countries to comply with supply limitation and production cuts;
- global or national health epidemics, such as the COVID-19 pandemic;
- political or civil unrest in the United States or elsewhere;
- worldwide political, military and economic conditions;
- stockholder activism or activities by non-governmental organizations to limit certain sources of funding for the energy sector or restrict the exploration, development and production of oil and natural gas;
- advances in exploration, development and production technologies or in technologies affecting energy consumption; and
- the potential acceleration of development of alternative fuels, and the impact of related energy supply and conservation policies and regulations by governmental authorities.

Decreased demand for proppant or the development of technically- and cost-effective alternative proppants or new processes to replace hydraulic fracturing would negatively impact our business.

Frac sand is the most commonly used proppant in the completion and re-completion of oil and natural gas wells through hydraulic fracturing. A significant shift in demand from frac sand to other proppants, such as ceramic proppant, the development and use of other effective alternative proppants, or the development of new processes to replace hydraulic fracturing altogether, could cause a decline in demand for frac sand that we produce and would have an adverse effect on our business, financial condition and results of operations.

In addition, fuel conservation measures, alternative fuel requirements and increasing consumer demand for alternatives to oil and natural gas could reduce demand for oil and natural gas. The impact of the reduced demand for oil and natural gas may have an adverse effect on our business, financial condition, prospects, results of operations and cash flows. Additionally, the increased competitiveness of alternative energy sources (such as wind, solar, geothermal, tidal and biofuels) could reduce demand for oil and natural gas and therefore for our products and services, which would lead to a reduction in our revenues and negatively impact our business, financial condition and results of operations.

Our future performance will depend on our ability to succeed in competitive markets and on our ability to appropriately react to potential fluctuations in demand for, and supply of, our products and services.

We operate in a highly competitive market that is characterized by a small number of large, national producers and a larger number of small, regional or local producers. Transportation costs are a significant portion of the total cost to customers of proppant (in many instances, transportation costs can represent more than 50% of delivered cost), the proppant market is typically local, and competition from beyond the local area is limited. Further, competition in the industry is based on customer relationships, reliability of supply, consistency and quality of product, customer service, site location, distribution capability, breadth of product offering, technical support and price.

Some of our competitors may have or may develop greater financial, natural and other resources than we have. Periodically, some of our competitors may reduce the pricing that they offer to our customers for a variety of reasons. One or more of our competitors may develop technology superior to ours or may have production facilities located in closer proximity to certain customer locations than we do. For example, mobile mines may be able to mine resources in close proximity to wells, enabling them to deliver sand with significantly lower transportation costs.

When the demand for hydraulic fracturing services decreases or the supply of proppant available in the market increases, prices in the proppant market can materially decrease. Our competitors may choose to consolidate, which could provide them with greater financial and other resources than we have and improve their competitive positioning. Furthermore, oil and natural gas exploration and production companies and other providers of hydraulic fracturing services have acquired, and in the future may acquire, their own proppant reserves to fulfill their proppant requirements, and these other market participants may expand their existing proppant production capacity, all of which would negatively impact demand for our proppant. In addition, increased competition in the proppant industry could have an adverse impact on our ability to enter into long-term contracts or to enter into contracts on favorable terms.

Past performance by members of our management team, our directors or their respective affiliates may not be indicative of our future performance or an investment in us.

Information regarding performance by, or businesses associated with, our management team, our directors and their affiliates is presented for informational purposes only. Past performance of our management team, our directors and their affiliates is not a guarantee of our future success or similar results. You should not rely on the historical record of the performance of our management team, our directors or their affiliates as being indicative of the future performance of an investment in us or the returns we will, or are likely to, generate going forward.

Increasing costs, a lack of dependability or availability of transportation services or infrastructure or an oversupply of transportation services could have an adverse effect on our business, financial condition and results of operations.

The transportation industry is subject to possible legislative and regulatory changes that may affect the economics of the industry by requiring changes in operating practices or by changing the demand or the cost of providing truckload services.

Transportation and related costs tend to be a significant component of the total delivered cost to our customers purchasing our proppant. The high relative cost of transportation related expense tends to favor manufacturers located in close proximity to the customer. Additionally, increases in the price of transportation costs, including freight charges, fuel surcharges and demurrage costs, could negatively impact operating costs if we are unable to pass those increased costs along to our customers. Failure to find long-term solutions to these logistical challenges could adversely affect our ability to respond quickly to the needs of our customers or result in additional increased costs, and thus could negatively impact our business, results of operations and financial condition.

Our operations are subject to operational hazards and inherent risks, some of which are beyond our control, and some of which may not be fully covered by insurance.

Our business and operations may be affected by natural or man-made disasters and other external events, many of which are not in our control. In addition to the other risks described in these risk factors, risks include:

- unanticipated ground, grade or water conditions;
- environmental hazards;
- physical facility security breaches;
- inability to acquire or maintain necessary permits or mining or water rights;
- failure to maintain dust controls and meet restrictions on, or applicable requirements with respect to, respirable crystalline silica dust;
- failures in quality control systems or training programs;
- technical difficulties or key equipment failures;
- inability to obtain necessary mining or production equipment or replacement parts;
- fires, explosions or industrial accidents or other accidents; and
- facility shutdowns in response to environmental regulatory actions.

These hazards can also cause personal injury and loss of life, severe damage to and destruction of property and equipment, pollution or environmental damage and suspension or cancellation of operations. Any prolonged downtime or shutdowns at our mining properties or production facilities could have an adverse effect on our business, financial condition and results of operations. In addition, our operations are subject to, and exposed to, employee/employer liabilities and risks such as wrongful termination, discrimination, labor organizing, retaliation claims and general human resource related matters.

Not all of these risks are reasonably insurable, and our insurance coverage contains limits, deductibles, exclusions and endorsements. Our insurance coverage may not be sufficient to meet our needs in the event of loss and any such loss may have an adverse effect on our business, financial condition and results of operations.

Our ability to produce our products economically and in commercial quantities could be impaired if we are unable to acquire adequate supplies of water for our dredging operations.

The dredging process that we currently employ to produce from our Kermit, Texas and Monahans, Texas proppant production and processing facilities requires significant quantities of water from the aquifer underlying our acreage. If in the future there is insufficient capacity available from this aquifer to provide a source of water for our dredging and associated processes as a result of drought or similar conditions affecting the environment, we will be required to obtain water from other sources that may not be readily available, or may be too costly, and we may be unable to continue our dredge mining operations entirely. The effects of climate change may also further exacerbate water scarcity in certain regions, including at the aquifer on our acreage. If an environmental, weather or other event were to require us to discontinue dredging and resume operations using traditional proppant production processes, this could impair our cost of operations and ability to economically produce our product and would have an adverse effect on our financial condition, results of operations and cash flows.

Failure to maintain effective quality control systems at our mining and production facilities could have an adverse effect on our business, financial condition and operations.

The quality and safety of our products are critical to the success of our business. These factors depend significantly on the effectiveness of our quality control systems, which, in turn, depend on a number of factors, including the design of our quality control systems, our quality-training program and our ability to ensure that our employees adhere to the quality control policies and guidelines. Any significant failure or deterioration of our quality control systems could have an adverse effect on our business, financial condition, results of operations and reputation.

Given the nature of our proppant production operations, we face a material risk of liability, delays and increased cash costs of production from environmental and industrial accidents and operational breakdowns.

Our business involves significant risks and hazards, including environmental hazards, industrial accidents and breakdowns of equipment and machinery. Our electric dredge mining operations are subject to delays and accidents associated with electrical supply, repositioning and maintenance. Furthermore, during operational breakdowns, the relevant facility may not be fully operational within the anticipated timeframe, which could result in further business losses. The occurrence of any of these or other hazards could delay production, suspend operations, increase repair, maintenance or medical costs and, due to the integration of our facilities, could have an adverse effect on the productivity and profitability of a particular facility or on our business as a whole. Although insurance policies provide limited coverage for these risks, such policies will not fully cover some of these risks.

The development of the Dune Express is a complex and challenging process that may take longer and cost more than estimated, or not be completed at all. In addition, successful development and operation of the Dune Express will depend on certain factors that may be outside of our control, and the storage and transportation capacity or other anticipated benefits of our Dune Express may not be achieved.

We may encounter adverse geological conditions, regulatory procedures or other legal requirements that could impede the construction or operation of the Dune Express. The inability to obtain any permits and other federal, state or local approvals that may be required, and any excessive delays in obtaining such permits and approvals due, for example, to litigation or third-party appeals, could potentially prevent us from successfully constructing and operating the Dune Express in a timely manner.

We engage qualified construction firms to perform work associated with the construction of the Dune Express. However, if such firms experience delays, if they perform sub-standard work or if we fail to properly monitor the quality of their work or the timeliness of their progress, we may not be able to complete construction or begin operation of the Dune Express by the date or at the cost currently estimated. In any such circumstance, we could also face difficulties meeting certain delivery obligations to our customers or incur additional costs in making such deliveries by truck or other alternative means. Any material delay caused by our construction firms and subcontractors could therefore ultimately impact our ability achieve the anticipated benefits of the Dune Express and its integrated mining facilities and have an adverse effect on our business, financial condition and results of operations.

Operation of the Dune Express will depend on transmission and distribution facilities. If transmission to the Dune Express or any of its integrated mining facilities were to be interrupted physically, mechanically or with cyber means, it may hinder our ability to mine, sell or deliver proppant to our customers, satisfy our contractual obligations or otherwise operate or fully realize the expected benefits of the Dune Express.

Increased stakeholder and market attention to ESG and conservation matters may adversely impact our business and access to capital.

Businesses across all industries face scrutiny from stakeholders related to their ESG approach and practices. Businesses that are perceived to be operating in contrast to investor or stakeholder expectations and standards, which are continuing to evolve, or businesses that are perceived to have not responded appropriately to the growing concern for ESG issues, regardless of whether there is a legal requirement to do so, may suffer from reputational damage and the business, financial condition, access to capital, and/or stock price of such business entity could be materially and adversely affected. Increasing societal, investor, regulator, and stakeholder attention to climate change, natural capital, and other ESG matters along with changes in consumer demand for alternative sources of energy may result in increased costs (including but not limited to increased costs related to compliance, stakeholder engagement, contracting, and insurance) and reduced demand for our customers' hydrocarbon products and our products and services. Increasing investor, lender, and societal expectations regarding voluntary ESG-related disclosures and trends towards mandatory ESG-related disclosures could result in increased costs, heightened regulatory, judicial, and legislative scrutiny, governmental investigations, and litigation. From time to time, we may also be subject to ESG-specific activist campaigns as stockholders may attempt to effect changes to our business or governance practices.

In addition, organizations that provide information to investors on corporate governance and related matters have developed ratings processes for evaluating companies on their approach to ESG matters. Such ratings are used by some investors to inform their investment and voting decisions. Accordingly, we may receive pressure from investors, lenders or other groups to adopt climate or other ESG-related goals or participate in various voluntary frameworks or certification programs intended to improve our ESG profile. A failure or a perception (whether valid or not) of failure to implement ESG strategies or adopt ESG goals or commitments, including any voluntary GHG emission reduction or carbon intensity goals or commitments, could result in private litigation or reputational damage, cause investors or customers to lose confidence in us, harm our ability to effectively recruit or retain employees and negatively impact our operations and goodwill, all of which may adversely affect our financial performance. Moreover, even if we voluntarily elect to pursue climate or ESG goals, we cannot guarantee that we will be able to implement such goals because of potential costs, technical or operational obstacles, uncertainty in long-term assumptions and expectations or other market or technological developments beyond our control. Similarly, we cannot guarantee that participation in any sustainability, climate-related, or ESG certification program or framework will have the intended results on our ESG profile.

Separately, some members of the investment community have increased their focus on the ESG practices and disclosures of public companies, including practices and disclosures related to climate change and sustainability, diversity, equity, and inclusion, and heightened governance standards. Certain large institutional investors may also evaluate companies for ESG disclosure and performance prior to investing in our Company or including our Company's stock in their investment products, and such evaluation criteria may not be made known to us. To the extent any of these large institutional investors choose not to invest in our Company on account of their evaluation of our ESG performance or a decision to allocate capital away from the fossil fuel production sector, we may lose investors, our cost of capital may increase, and our stock price may be negatively impacted.

Our business may suffer if we lose or are unable to attract and retain members of our workforce.

We depend to a large extent on the services of our senior management team and other key personnel. These employees have extensive experience and expertise in evaluating and analyzing industrial mineral properties, maximizing production from such properties, marketing industrial mineral production and developing and executing financing and hedging strategies.

Competition for management and key personnel is intense, and the pool of qualified candidates is limited. The loss of any of these individuals or the failure to attract additional personnel as needed could have an adverse effect on our operations and could lead to higher labor costs or the use of less-qualified personnel. In addition, if any of our executives or other key employees were to join a competitor or form a competing company, we could lose customers, suppliers, know-how and other personnel. Our operations also rely on skilled laborers using modern techniques and equipment to mine efficiently. We may be unable to train or attract the necessary number of skilled laborers to maintain our operating costs.

With respect to our trucking services, the industry periodically experiences a shortage of qualified drivers, particularly during periods of economic expansion, in which alternative employment opportunities are more plentiful and freight demand increases, or during periods of economic downturns, in which unemployment benefits might be extended. The trucking industry suffers from a high driver turnover rate, which requires us to continually recruit a substantial number of drivers to operate our equipment and could negatively affect our operations and expenses if we are unable to do so. Our success will be dependent on our ability to continue to attract, employ and retain highly skilled personnel at all levels of our operations.

A shortage of skilled labor together with rising labor costs in the excavation industry may further increase operating costs, which could adversely affect our business, results of operations and financial condition.

Efficient sand excavation using modern techniques and equipment requires skilled laborers, preferably with several years of experience and proficiency in multiple tasks, including processing of mined minerals. If there is a shortage of experienced labor in areas in which we operate, we may find it difficult to hire or train the necessary number of skilled laborers to perform our own operations, which could have an adverse impact on our business, results of operations and financial condition.

As a result of the volatility of the oilfield services industry and the demanding nature of the work, workers may choose to pursue employment in fields that offer a more desirable work environment at wage rates that are competitive. Increased competition for their services could result in a loss of available, skilled workers or at a price that is not as advantageous to our business, both of which could negatively affect our operating results. If we are unable to retain or meet the growing demand for skilled technical personnel, our operating results and our ability to execute our growth strategies may be adversely affected.

Inaccuracies in our estimates of sand reserves and resource deposits, or deficiencies in our title to those deposits, could result in our inability to mine the deposits or require us to pay higher than expected costs.

We base our sand reserve and resource estimates on engineering, economic and geological data assembled and analyzed by our mining engineers, which are reviewed periodically by outside firms. However, frac sand reserve estimates are by nature imprecise and depend to some extent on statistical inferences drawn from available drilling data, which may prove unreliable. There are numerous uncertainties inherent in estimating quantities and qualities of frac sand reserves and non-reserve frac sand deposits and costs to mine recoverable reserves, many of which are beyond our control and any of which could cause actual results to differ materially from our expectations. These uncertainties include:

- geological and mining conditions that may not be fully identified by available data or that may differ from experience;
- assumptions regarding the effectiveness of our mining, quality control and training programs;
- assumptions concerning future prices of frac sand, operating costs, mining technology improvements, development costs and reclamation costs; and
- assumptions concerning future effects of regulation, including the issuance of required permits and taxes by governmental agencies.

In addition, title to, and the area of, mineral properties and water rights may also be disputed. Mineral properties sometimes contain claims or transfer histories that examiners cannot verify. A successful claim that we do not have title to one or more of our properties or lack appropriate water rights could cause us to lose any rights to explore, develop and extract any minerals on that property, without compensation for our prior expenditures relating to such property. Any inaccuracy in our estimates related to our mineral reserves and non-reserve mineral deposits, or our title to such deposits, could result in our inability to mine the deposits or require us to pay higher than expected costs.

Further, the SEC has adopted amendments to its disclosure rules (the “SEC Modernization Rules”) to modernize the mineral property disclosure requirements for issuers whose securities are registered with the SEC under the Exchange Act, which are codified in Regulation S-K subpart 1300. Under the SEC Modernization Rules, the historical property disclosure requirements for mining registrants included in SEC Industry Guide 7 have been replaced. As a result of the adoption of the SEC Modernization Rules, the SEC now recognizes estimates of “measured mineral resources,” “indicated mineral resources” and “inferred mineral resources.” However, compared to mineralization that has been characterized as reserves, mineralization described using these terms has a greater amount of uncertainty as to their existence and whether they can be mined legally or economically, and investors are therefore cautioned not to assume that any reported “measured mineral resources,” “indicated mineral resources” or “inferred mineral resources” are or will be economically or legally mineable.

All of our product sales are currently generated at three facilities. Any adverse developments at those facilities could have an adverse effect on our business, financial condition and results of operations.

All of our product sales are currently derived from our Kermit and Monahans facilities located in Winkler and Ward Counties in Texas. Any adverse development at these facilities due to catastrophic events or weather, adverse government regulatory impacts, transportation-related constraints or any other events that could cause us to curtail, suspend or terminate operations at any of our facilities, could result in our being unable to deliver our contracted volumes and related obligations. Although we maintain insurance coverage to cover a portion of these types of risks, there could be potential risks associated with our operations not covered by insurance. There also may be certain risks covered by insurance where the policy does not reimburse us for all of the costs related to such risks. Downtime or other delays or interruptions to our future operations that are not covered by insurance could have an adverse effect on our business, results of operations and financial condition. In addition, under our supply contracts, if we are unable to deliver contracted volumes, we may be required to pay liquidated damages that could have an adverse effect on our financial condition and results of operations.

Our operations consume large amounts of natural gas and electricity. An increase in the price or a significant interruption in the supply of these or any other energy sources could have an adverse effect on our business, financial condition and results of operations.

Natural gas and electricity costs represented approximately 2.1% and 0.7%, respectively, of our total product sales in the year ended December 31, 2023, and 3.4% and 0.7%, respectively, of our total product sales in the year ended December 31, 2022. Potential climate change regulations or carbon or emissions taxes could result in higher cost of production for energy, which may be passed on to us in whole or in part. A significant increase in the price of energy that is not recovered through an increase in the price of our products and services or covered through our hedging arrangements or an extended interruption in the supply of electricity or natural gas to our production facilities could have an adverse effect on our business, results of operations and financial condition.

A large portion of our sales is generated by our top 10 customers, and the loss of or a significant reduction in purchases by our largest customers could adversely affect our business, financial condition and results of operations.

Our 10 largest customers accounted for approximately 86.5% of total sales for the year ended December 31, 2023, and approximately 67.7% of total sales for the year ended December 31, 2022. Some of our customers have exited or could exit the business, or have been or could be acquired by other companies that purchase proppant solutions or logistics services we provide from other third-party providers. Our current customers also may seek to acquire proppant or logistics services from other providers that offer more competitive pricing or capture and develop their own sources of proppant solutions or logistics services. The loss of a customer or contract, or a reduction in the amount of proppant solutions or logistics services purchased by any customer, could have an adverse effect on our business, financial condition and results of operations. Further, as a result of market conditions, competition or other factors, these customers may not continue to purchase the same levels of our products in the future, if at all. Substantial reductions in purchased volumes across these customers could have an adverse effect on our business, financial condition and results of operations.

Upon the expiration of our current contracts, our customers may not continue to purchase the same levels of proppant solutions or logistics services due to a variety of reasons. In addition, we may choose to renegotiate our existing contracts on less favorable terms or at reduced volumes in order to preserve relationships with our customers. Any renegotiation of our contracts on less favorable terms, or inability to enter into new contracts on economically acceptable terms upon the expiration of our current contracts, could have an adverse effect on our business, financial condition and results of operations.

Our business and operations depend on our and our customers' ability to obtain and maintain necessary permits.

We and our customers hold numerous governmental, environmental, mining and other permits and approvals authorizing operations at each of our facilities. Our future success depends on, among other things, our ability, and the ability of our customers, to obtain and maintain the necessary permits and licenses required to conduct operations. In order to obtain permits and renewals of permits in the future, we may be required to prepare and present data to governmental authorities pertaining to the impact that our activities may have on the environment. Compliance with these regulatory requirements is expensive and significantly lengthens the time needed to conduct operations. Additionally, obtaining or renewing required permits is sometimes delayed, conditioned or prevented due to community opposition, opposition from other parties, the location of existing or proposed third-party operations, or other factors beyond our control. The denial of a new or renewed permit essential to our operations, delays in obtaining such a permit or the imposition of conditions in order to acquire the permit could impair our ability to continue operations at the affected facilities, delay those operations, or involve significant unplanned costs, any of which could adversely affect our business, performance and financial condition.

Our supply agreements may preclude us from taking advantage of increasing prices for proppant or mitigating the effect of increased operational costs during the term of those contracts.

The supply agreements we have may negatively impact our results of operations. Our sales contracts require our customers to pay a specified price for a specified volume of proppant. Although some of our supply agreements provide for price adjustments based on various factors, such adjustments are generally calculated on a quarterly basis and do not adjust dollar-for-dollar with adjustments in spot market prices. As a result, in periods with increasing prices our sales will not keep pace with market prices.

Additionally, if our operational costs increase during the terms of our supply agreements, we will not be able to pass some of those increased costs to our customers. If we are unable to otherwise mitigate these increased operational costs, our net income could decline.

A proppant production facility closure entails substantial costs, and if we close any of our facilities sooner than anticipated, our results of operations may be adversely affected.

We base our assumptions regarding the life of our proppant production facilities on detailed studies that we perform from time to time, but our studies and assumptions do not always prove to be accurate. If we close any of our proppant production facilities sooner than expected, sales will decline unless we are able to increase production at any of our other proppant production facilities, which may not be possible. The closure of a proppant production facility may also involve significant fixed closure costs, including accelerated employment legacy costs, severance-related obligations and potentially advance employee notice obligations and attendant costs with respect to a plant closure or mass layoff, and potentially reclamation and other environmental costs and the costs of terminating long-term obligations, including energy contracts and equipment leases. We accrue for the estimated costs to retire the assets over the expected timing of settlement. If we were to reduce the estimated time to settlement, the fixed proppant production facilities closure costs could be applied to a shorter period of production, which would increase production costs per ton produced and could adversely affect our results of operations and financial condition.

In addition, some environmental laws such as CERCLA, impose strict, retroactive and joint and several liability for the remediation of releases of hazardous substances.

Certain of our contracts contain provisions requiring us to deliver minimum amounts of sand-based proppant. If we are unable to meet our minimum requirements under these contracts, we may be required to pay penalties or the contract counterparty may be able to terminate the agreement.

In certain instances, we commit to deliver products under penalty of nonperformance. We commit to deliver products to our customers prior to production, and we are obligated to deliver a minimum volume of sand-based proppant per year or per month under our supply agreements over their respective terms. Depending on the contract, our inability to deliver the requisite volume of sand-based proppant may permit our customers to terminate the agreement or require us to pay our customers a fee, the amount of which is generally calculated by multiplying the difference between the amount of volume contracted for and the amount delivered by a per-ton penalty specified in the contract. In such events, our results of operations may be adversely affected.

Currently, all of our operations are concentrated in the Permian Basin, making us vulnerable to risks associated with operating in a limited geographic area.

Currently, all of our operations are geographically concentrated in the Permian Basin. As a result, we may be disproportionately exposed to various factors, including, among others: (i) the impact of regional supply and demand factors, (ii) delays or interruptions of completion activity in such areas caused by governmental regulation, (iii) processing or transportation capacity constraints, (iv) market limitations, (v) availability of equipment and personnel or (vi) water shortages or other drought related conditions. This concentration in a limited geographic area also increases our exposure to changes in local laws and regulations, certain lease stipulations designed to protect wildlife and unexpected events that may occur in the regions such as natural disasters, seismic events, industrial accidents or labor difficulties. Any of the risks described above could have an adverse effect on our business, financial condition, results of operations and cash flow.

An increase in the supply of proppant having similar characteristics as the proppant we produce could make it more difficult for us to renew or replace our existing contracts on favorable terms, or at all.

If significant new reserves of proppant are discovered and developed and have similar characteristics to the proppant we produce, we may be unable to renew or replace our existing contracts on favorable terms, if at all. Specifically, if proppant is oversupplied, our customers may not be willing to enter into long-term take-or-pay contracts, may demand lower prices or both, which would have an adverse effect on our business, results of operations and financial condition. Similarly, the COVID-19 pandemic caused a historic slowdown in oil and natural gas activity, which led to an increase in available proppant supply relative to the reduced demand. The foregoing events have led to increased competition among our competitors, which could lead to pressure to further reduce prices to compete effectively.

Our results of operations are significantly affected by the market price of sand-based proppant, which have been historically subject to substantial price fluctuations.

Our results of operations and financial conditions are, and will continue to be, particularly sensitive to the long- and short-term changes in the market price of sand-based proppant. Among other factors, these prices also affect the value of our reserves and inventories, and could negatively impact the market price of our Common Stock.

Market prices are affected by numerous factors beyond our control, including, among others, demand for high quality sand-based proppant, the availability and relative cost of alternate sources of sand, drilling and completion activity in the Permian Basin, prevailing commodity prices and overall economic activity.

Additionally, when demand for sand-based proppant increases, there may not be a corresponding or immediate increase in the prices for our products or our customers may choose to opt for lower-quality, lower-priced products, which could have an adverse effect on our results of operations and financial condition. For example, our average price of product was approximately \$20.59 per ton in 2019 compared to approximately \$12.75 per ton in 2020 during the COVID-19 pandemic. As activity recovered during 2021, our average price was approximately \$17.21 per ton. For the year ended December 31, 2023 and 2022, our average price was approximately \$42.63 per ton and \$40.10 per ton, respectively.

In addition, any future decreases in the rate at which oil and natural gas reserves are discovered or developed, whether due to increased governmental regulation, limitations on exploration and drilling activity, including hydraulic fracturing or other factors, could have an adverse effect on our business and financial condition, even in a stronger oil and natural gas price environment.

Our E&P customers' operations are subject to operating risks that are often beyond our control and could have an adverse effect on our business, financial condition and results of operations.

In addition to the sand-based proppant that we supply, the operations of our E&P customers rely on several other products and services in order to perform hydraulic fracturing activities, such as skilled laborers and equipment required for pumping proppant, water and fluids into oil and natural gas wells. Any failure by our E&P customers to obtain these other products and services could have an adverse effect on our business, financial condition and results of operations.

There are complex software and technology systems that need to be developed in coordination with our technology partner in connection with our autonomous trucking initiative, and there can be no assurance such systems will be successfully developed or implemented for use in our planned applications or at all.

One of our long-term logistics development goals is to bring autonomous wellsite delivery of our proppant to the Permian Basin. Our planned autonomous proppant-delivery vehicles, when deployed, will use a substantial amount of third-party software codes and complex hardware to operate. The development of these advanced technologies is inherently complex, and we will need to coordinate with our technology partner in connection with the design, production and deployment of our autonomous proppant-delivery vehicles. Defects and errors may be revealed over time and our control over the performance of such third-party services and systems may be limited. Accordingly, our potential inability to successfully develop and implement the necessary software and technology systems may harm our competitive position.

The autonomous trucking technologies are emerging technologies that may not be commercially viable when used in our planned applications or at all. There can be no assurances that our technology partner will be able to meet the technological requirements, production timing and end-use specifications required to successfully implement our planned autonomous trucking initiative. Any material delays or cost increases may also make us unable to meet certain proppant-delivery obligations to our customers or incur additional costs in making such deliveries by traditional trucking methods or other alternative means, which could have an adverse effect on our business, financial condition and results of operations.

Our autonomous driving technology and related hardware and software, when deployed, could have undetected defects, errors or bugs in hardware or software, which could create safety or cybersecurity issues and could expose us to liability and other claims that could adversely affect our business.

Autonomous driving technology is highly technical and very complex, and has in the past and may in the future experience defects, errors or bugs at various stages of implementation. In the event of such defect, error or bug, we may incur significant additional development costs, repair or replacement costs, or more importantly, liability for personal injury or property damage caused by such errors or defects. Any insurance that we carry may not be sufficient or it may not apply to all situations that may arise in connection with the planned applications of our autonomous delivery vehicles. In accidents involving semi-trucks, most of the resulting fatalities are victims outside of the vehicle. If we experience such an event or multiple events, our insurance premiums could significantly increase or insurance may not be available to us at all. In addition, lawmakers or governmental agencies could pass laws or adopt regulations that limit the use of autonomous-trucking technology or increase liability associated with its use. Any of these events could adversely affect our reputation, relationships with our customers, financial condition and results of operations.

In addition, we could face material legal claims as a result of these problems. Any such lawsuit may cause irreparable damage to our brand and reputation. In addition, defending a lawsuit, regardless of its merit, could be costly and may divert management's attention and adversely affect the market's perception of us and our products and services. In addition, our business liability insurance coverage could prove inadequate with respect to a claim and future coverage may be unavailable to us on acceptable terms or at all. These product-related issues could result in claims against us and have an adverse effect on our business, financial condition and results of operations.

Any unauthorized control or manipulation of the information technology systems in our autonomous proppant-delivery vehicles could result in loss of customer confidence in us and the products and services we provide.

Our autonomous proppant-delivery vehicles, when deployed, will contain complex information technology systems and built-in data connectivity to log location data and accept and install periodic remote updates to improve or update their functionality or performance. Our technology partner expects to design, implement and test security measures intended to prevent unauthorized access to its and our information technology networks, the autonomous vehicle platforms it produces and related or connected systems. However, hackers may attempt to gain unauthorized access to modify, alter and use such networks, vehicles and systems to gain control of or to change our autonomous vehicles' functionality, user interface and performance characteristics, or to gain access to data stored in or generated by our autonomous vehicles. Future vulnerabilities could be identified and manipulated and our or our technology partner's efforts to remediate such vulnerabilities may not be successful. Any unauthorized access to or control of our autonomous proppant-delivery vehicles, or any loss of data, could result in legal claims or proceedings against us and remediation of such problems could result in significant, unplanned capital expenditures. In addition, regardless of their veracity, reports of unauthorized access to our autonomous proppant-delivery vehicles or our or our customers' data, as well as other factors that may result in the perception that our autonomous proppant-delivery vehicles or data are capable of being "hacked," could negatively affect our brand and harm our business, financial condition and results of operations.

Natural disasters and unusual weather conditions could disrupt business and result in operational delays and otherwise have an adverse effect on our business.

The occurrence of one or more natural disasters, such as tornadoes, hurricanes, tsunamis, fires, droughts, floods and earthquakes or unusual weather conditions or temperatures in the regions in which our facilities are located could result in delayed operations, repair costs or disruptions to our supply chains or similarly impact the operations of our customers. For example, in February 2021, Texas and New Mexico experienced record-setting cold temperatures from Winter Storm Uri. Proppant volumes were negatively impacted in February and March 2021 as the cold weather delayed completion schedules and pushed forecasted producer activity into the latter half of the year. Events such as this could have an adverse effect on our or our customers' businesses and may become more frequent or intense as a result of climate change.

Our acquisitions, dispositions and investments may not result in anticipated benefits and may present risks not originally contemplated, which may have a material adverse effect on our liquidity, financial condition and results of operations.

We continually seek opportunities to maximize efficiency and value in our Company, which includes consideration of purchases or sales of assets, businesses, or investments. Such strategic transactions, among others, would be intended to (but may not) result in the realization of savings, the creation of efficiencies, the generation of cash or income, or the reduction of risk. Acquisition transactions may use cash on hand or be financed by additional borrowings or by the issuance of Common Stock. Such transactions could also affect our liquidity, financial condition and results of operations.

Such transactions would also involve risks, and we cannot ensure that:

- any acquisitions we attempt will be completed on the terms announced, or at all;
- any acquisitions would result in an increase in income or provide an adequate return of capital or other anticipated benefits;
- any acquisitions would be successfully integrated into our operations and internal controls, including those related to financial reporting, disclosure and cyber and information security;
- the due diligence conducted prior to an acquisition would uncover situations that could result in financial or legal exposure, or that we will appropriately quantify the exposure from known risks;
- any disposition would not result in decreased earnings, revenue, or cash flow;
- use of cash for acquisitions would not adversely affect our cash available for capital expenditures and other uses; or
- any dispositions, investments, or acquisitions, including integration efforts, would not divert management resources to our detriment.

Risks Related to Our Financial Condition

Our indebtedness could adversely affect our financial flexibility and our competitive position.

We have, and expect to maintain in the near term, a significant amount of indebtedness. On July 31, 2023, we entered into the 2023 Term Loan Credit Agreement, pursuant to which Stonebriar extended Atlas LLC a term loan credit facility comprised of a \$180.0 million single advance term loan that was made on July 31, 2023 (the "Initial Term Loan") and commitments to provide up to \$100.0 million of delayed draw term loans.

The Initial Term Loan is payable in eighty-four consecutive monthly installments and a final payment of the remaining outstanding principal balance at maturity. The Initial Term Loan has a final maturity date of August 1, 2030. The Initial Term Loan bears interest at a rate equal to 9.50% per annum.

Proceeds from the 2023 Term Loan Credit Facility were used to repay outstanding indebtedness under our previous 2021 Term Loan Credit Facility, to repay obligations outstanding under certain equipment lease arrangements and for general corporate purposes.

Under our 2023 ABL Credit Facility, the lenders thereunder provide revolving credit financing to Atlas LLC in an aggregate principal amount of up to \$75.0 million with availability thereunder subject to a borrowing base as described in the 2023 ABL Credit Agreement. As of December 31, 2023, we had no loans outstanding under the 2023 ABL Credit Facility and we were using \$1.1 million for outstanding letters of credit, leaving \$73.9 million of borrowing availability under our 2023 ABL Credit Facility.

Our debt agreements contain a number of significant covenants that may limit our ability to, among other things:

- incur additional indebtedness;
- sell or convey assets;
- make loans to or investments in others;
- enter into mergers;
- make certain payments;
- hedge future production or interest rates;
- incur liens;
- pay dividends; and
- engage in certain other transactions without the prior consent of the lenders.

Our indebtedness could also have important consequences to you and significant effects on our business, including:

- increasing our vulnerability to adverse changes in general economic, industry and competitive conditions;
- requiring us to dedicate a substantial portion of our cash flow from operations to make payments on our indebtedness, thereby reducing the availability of our cash flow to fund working capital, capital expenditures and other general corporate purposes, including dividend payments;
- restricting us from exploiting business opportunities;
- making it more difficult to satisfy our financial obligations, including payments on our indebtedness;
- disadvantaging us when compared to our competitors that have less debt; and
- increasing our borrowing costs or otherwise limiting our ability to borrow additional funds for the execution of our business strategy.

We may be unable to generate sufficient cash to service all of our indebtedness and financial commitments.

Our ability to make scheduled payments on or to refinance our indebtedness and financial commitments depends on our financial condition and operating performance, which are subject to prevailing economic and competitive conditions including financial, business and other factors beyond our control. We may be unable to generate sufficient cash flow to permit us to pay the principal, premium, if any, and interest on our indebtedness.

If our cash flows and capital resources are insufficient to fund debt and other obligations, we may be forced to reduce or delay capital expenditures, sell assets, seek additional capital or restructure our indebtedness. Our ability to restructure or refinance indebtedness will depend on the condition of the capital markets and our financial condition at such time. Any refinancing of indebtedness could be at higher interest rates and may require us to comply with more onerous covenants, which could further restrict our operations. The terms of existing or future debt instruments may restrict us from adopting some of these alternatives. In addition, any failure to service our debt would likely result in a reduction of our future credit rating, if any, which could harm our ability to incur additional indebtedness. If we face substantial liquidity problems, we might be required to sell assets to meet debt and other obligations. Our debt restricts our ability to dispose of assets and dictates our use of the proceeds from such disposition. We may not be able to consummate dispositions, and the proceeds of any such disposition may be inadequate to meet our obligations.

We may be unable to access adequate funding as a result of a decrease in the borrowing base under the 2023 ABL Credit Facility due to an unwillingness or inability on the part of lending counterparties to meet their funding obligations and the inability of other lenders to provide additional funding to cover a defaulting lender's portion. As a result, we may be unable to execute our development plan, make acquisitions or otherwise conduct operations, which would have an adverse effect on our financial condition and results of operations.

Changes to applicable tax laws and regulations, exposure to additional income tax liabilities, changes in our effective tax rates or an assessment of taxes resulting from an examination of our income or other tax returns could adversely affect our results of operations and financial condition, including our ability to repay our debt.

We are subject to various complex and evolving U.S. federal, state and local taxes. U.S. federal, state and local tax laws, policies, statutes, rules, regulations or ordinances could be interpreted, changed, modified or applied adversely to us, in each case, possibly with retroactive effect, and may have an adverse effect on our results of operations and financial condition, including our ability to repay our debt. The passage of any tax legislation or other changes in U.S. federal income tax laws could adversely affect our results of operations and financial condition.

Changes in our effective tax rates or tax liabilities could also adversely affect our results of operations and financial condition. Our future effective tax rates could be subject to volatility or adversely affected by a number of factors, including:

- changes in the valuation of our deferred tax assets and liabilities;
- expected timing and amount of the release of any tax valuation allowances;
- expansion into future activities in new jurisdictions;
- the availability of tax deductions, credits, exemptions, refunds and other benefits to reduce tax liabilities; and
- tax effects of share-based compensation.

In addition, an adverse outcome arising from an examination of our income or other tax returns could result in higher tax exposure, penalties, interest or other liabilities that could have an adverse effect on our results of operations and financial condition.

We will need substantial additional capital to operate our business, and the inability to obtain needed capital or financing, on satisfactory terms, or at all, whether due to restrictions in our 2023 ABL Credit Facility, 2023 Term Loan Credit Facility or otherwise, could have an adverse effect on our growth and profitability.

Our business plan requires a significant amount of capital expenditures to maintain and grow our production levels over the long term. Although we currently use a significant amount of our cash reserves and cash generated from our operations to fund the maintenance and development of our existing sand reserves, we may need to depend on external sources of capital to fund future capital expenditures if proppant prices were to decline for an extended period of time, if the costs of our operations were to increase substantially or if other events were to occur that reduce our sales or increase our costs. Our ability to obtain bank financing or 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, adverse market conditions or other contingencies and uncertainties that are beyond our control. Our failure to obtain the funds necessary to maintain, develop and increase our asset base could adversely impact our growth and profitability.

In addition, our existing 2023 ABL Credit Facility and 2023 Term Loan Credit Facility contain, and any future financing agreements we may enter into could also contain, operating and financial restrictions and covenants that may limit our ability to finance future operations or capital needs or to engage in, expand or pursue our business activities.

Our ability to comply with these restrictions and covenants is uncertain and will be affected by the levels of cash flow from our operations and events and circumstances beyond our control. If market or other economic conditions deteriorate, our ability to comply with these covenants may be impaired. If we violate any of the restrictions or covenants in our 2023 ABL Credit Facility and 2023 Term Loan Credit Facility, a significant portion of our indebtedness may become immediately due and payable and our lenders' commitment to make further loans to us may terminate. We might not have, or be able to obtain, sufficient funds to make these accelerated payments. In addition, our obligations under our 2023 Term Loan Credit Facility are secured by substantially all of our assets, and if we are unable to repay our indebtedness or satisfy our other obligations under these, the lenders could seek to foreclose on our assets.

Even if we are able to maintain existing financing or access the capital markets, incurring additional debt may significantly increase our interest expense and financial leverage, and our indebtedness could restrict our ability to fund future development and acquisition activities. In addition, the issuance of any additional equity interests may result in significant dilution to the holders of our Common Stock.

We are subject to counterparty credit risk. Nonpayment or nonperformance by our customers, suppliers or vendors could have an adverse effect on our business, liquidity, financial condition and results of operations.

We are subject to the risk of loss resulting from nonpayment or nonperformance by our customers, suppliers and vendors. Our credit procedures and policies may not be adequate to fully eliminate customer credit risk. If we fail to adequately assess the creditworthiness of existing or future customers or unanticipated deterioration in their creditworthiness, any resulting increase in nonpayment or nonperformance by them and our inability to re-market or otherwise use the production could have an adverse effect on our business, results of operations and financial condition. A decline in oil and natural gas prices could negatively impact the financial condition of our customers and sustained lower prices could impact their ability to meet their financial obligations to us. Further, our contract counterparties may not perform or adhere to our existing or future contractual arrangements. To the extent one or more of our contract counterparties is in financial distress or commences bankruptcy proceedings, contracts with these counterparties may be subject to renegotiation or rejection under applicable provisions of the United States Bankruptcy Code. Any material nonpayment or nonperformance by our contract counterparties due to inability or unwillingness to perform or adhere to contractual arrangements could adversely affect our business and results of operations. If our customers delay or fail to pay us a significant amount of our outstanding receivables, it could have an adverse effect on our business, liquidity, financial condition and results of operations.

If we fail to comply with the restrictions and covenants in our debt agreements, there could be an event of default under the terms of such agreements, which could result in an acceleration of payment.

A breach of any representation, warranty or covenant in any of our debt agreements would result in a default under the applicable agreement after any applicable grace periods. A default could result in acceleration of the indebtedness, which would have an adverse effect on us. If an acceleration occurred, it would likely accelerate all of our indebtedness through cross-default provisions and we would likely be unable to make all of the required payments to refinance such indebtedness. Even if new financing were available at that time, it may not be on terms that are acceptable to us.

Any future indebtedness could adversely affect our financial condition.

We are, subject to the terms and conditions in the ABL Credit Agreement and availability under the borrowing base described therein, able to borrow up to \$75.0 million under our 2023 ABL Credit Facility.

In addition, subject to the limits contained in our 2023 ABL Credit Facility and 2023 Term Loan Credit Facility, we may incur substantial additional debt from time to time. Any borrowings we may incur in the future would have several important consequences for our future operations, including that:

- covenants contained in the documents governing such indebtedness may require us to meet or maintain certain financial tests, which may affect our flexibility in planning for, and reacting to, changes in our industry, such as being able to take advantage of acquisition opportunities when they arise;
- our ability to obtain additional financing for working capital, capital expenditures, acquisitions, general corporate and other purposes may be limited;
- we may be competitively disadvantaged as compared with our competitors that are less leveraged or have greater access to capital resources; and
- we may be more vulnerable to adverse economic and industry conditions.

If we incur indebtedness in the future, we may have significant principal payments due at specified future dates under the documents governing such indebtedness. Our ability to meet such principal obligations will be dependent upon future performance, which in turn will be subject to general economic conditions, industry cycles and financial, business and other factors affecting our operations, many of which are beyond our control. Our business may not continue to generate sufficient cash flow from operations to repay any incurred indebtedness. If we are unable to generate sufficient cash flow from operations, we may be required to sell assets, to refinance all or a portion of such indebtedness or to obtain additional financing.

Risks Related to Our Organizational Structure and Ownership of the Common Stock

We may reduce or suspend our dividend in the future.

We have paid a quarterly dividend or distribution for many years, and commencing in the second quarter of 2023 we established base quarterly dividend of \$0.15 per share and paid an additional variable dividend of \$0.05 per share per quarter, amounting to a total dividend payment of \$0.20 per share for each of the second and third quarters of 2023. For the fourth quarter of 2023, we increased the base dividend to \$0.16 per share, amounting to a total dividend payment of \$0.21 per share for the quarter. Despite establishing this base dividend in 2023, our Board has not yet adopted a dividend policy, and in the future, our Board may, without advance notice, determine to reduce or suspend our dividends in order to maintain our financial flexibility and best position the Company for long-term success. The declaration and amount of future dividends is at the discretion of our Board and will depend on our financial condition, results of operations, cash flows, prospects, industry conditions, capital requirements and other factors and restrictions our Board deems relevant. The likelihood that dividends will be reduced or suspended is increased during periods of prolonged market weakness or uncertainty, such as the economic downturn that resulted from the COVID-19 pandemic and the oil price collapse in 2020. In addition, our ability to pay dividends may be limited by agreements governing our indebtedness now or in the future. Although we do not currently have plans to reduce or suspend our dividend, there can be no assurance that we will not reduce our dividend or that we will continue to pay a dividend in the future.

Our stock prices and trading volumes could be volatile, and you may not be able to resell shares of your Common Stock when desired, at or above the price you paid, or at all.

The stock market has experienced and continues to experience extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of the underlying businesses. Recently, market volatility has been high due to the ongoing conflicts between Ukraine and Russia, Israel and Hamas and other instability in the Middle East, including from the Houthi rebels in Yemen, interest rate increases, rising inflation, instability of the banking sector, a softening U.S. economy and other factors. Broad market fluctuations may adversely affect the market price of the Common Stock, regardless of our actual operating performance. In addition to the other risks described in this section, the market price of our Common Stock may fluctuate significantly in response to a number of factors, many of which we cannot control, including:

- our operating and financial performance;
- quarterly variations in the rate of growth of our financial indicator;
- public reaction to our press releases, other public announcements, and filings with the SEC;
- announcements by others in or affecting our industry or our customers;
- strategic actions by our competitors;
- our failure to meet revenue or earnings estimates by research analysts or other investors;
- changes in revenue or earnings estimates, or changes in recommendations or withdrawal of research coverage, by equity research analysts;
- inaccurate or unfavorable research or ratings published by industry analysts about our business, or a cessation of coverage of our Company by industry analysts;
- speculation in the press or investment community;
- the failure of research analysts to cover our Common Stock;
- sales of Common Stock by the Company, the Legacy Owners or other stockholders, or the perception that such sales may occur;
- changes in accounting principles, policies, guidance, interpretations or standards;
- additions or departures of key management personnel;
- actions by our stockholders;
- general market conditions, including fluctuations in commodity prices, sand-based proppant or industrial and recreational sand-based products;
- our acquisition of, investment in or disposition of other businesses;
- domestic and international economic, legal and regulatory factors unrelated to our performance; and
- the realization of any of the risks described under this “*Risk Factors*” section.

Volatility in the market price or trading volume of the Common Stock may make it difficult or impossible for you to sell your Common Stock at or above the price at which you purchased the stock. As a result, you may suffer a loss on your investment. Securities class action litigation has often been instituted against companies following periods of volatility in the overall market and in the market price of a company's securities. This litigation, if instituted against us, could result in substantial costs, reduce our profits, divert our management's attention and resources and harm our business.

Future sales of Common Stock in the public market, or the perception that such sales may occur, could reduce the trading price of the Common Stock, and any additional capital raised by us through the sale of equity or convertible securities may dilute your ownership in our Company.

We may sell additional shares of Common Stock in subsequent offerings. In addition, subject to certain limitations and exceptions, the Legacy Owners holding shares of Common Stock may sell those shares in the future. Certain Legacy Owners who own, in the aggregate, approximately 46% of the Common Stock, are party to the A&R Registration Rights Agreement, which includes provisions pursuant to which we have agreed, after the expiration of any applicable lock-up period, to register under the U.S. federal securities laws the offer and resale of shares of Common Stock by such Legacy Owners or certain of their respective affiliates or permitted transferees under the A&R Registration Rights Agreement.

We cannot predict with certainty the size of future issuances of Common Stock or the effect, if any, that future issuances and sales of shares of Common Stock will have on the market price of the Common Stock. Sales of substantial amounts of Common Stock (including shares issued in connection with an acquisition), or the perception that such sales could occur, may adversely affect prevailing market prices of the Common Stock.

Certain of the Principal Stockholders will have the ability to direct the voting of a significant proportion of the voting power of the Common Stock, and their interests may conflict with those of other stockholders.

In connection with the consummation of the Up-C Simplification, the Principal Stockholders entered into the A&R Stockholders' Agreement with the Company. The Principal Stockholders collectively own approximately 45% of the Company's voting stock. As a result, on a combined basis, the Principal Stockholders have considerable influence over 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 Common Stock will be able to affect the way the Company is managed or the direction of its business. The interests of the Principal Stockholders with respect to matters potentially or actually involving or affecting the Company, such as future acquisitions, financings and other corporate opportunities and attempts to acquire the Company, may conflict with the interests of other stockholders. Given this significant concentrated ownership, the Principal Stockholders would likely have to approve any potential acquisition of the Company.

The A&R Stockholders' Agreement provides Mr. Brigham (or his affiliates, as applicable) with the right to designate certain numbers of nominees to the Board and the right to approve certain actions by the Company, so long as the Principal Stockholders and their affiliates collectively beneficially own specified percentages of the outstanding shares of Common Stock. Additionally, the A&R Stockholders' Agreement provides that the Principal Stockholders agree to cause their respective shares of Common Stock to be voted in favor of the election of each of the director nominees designated by Mr. Brigham.

Accordingly, Mr. Brigham has the ability to strongly influence the election of the members of the Board, and thereby its management and affairs. In addition, the Principal Stockholders are able to strongly influence the outcome of all matters requiring stockholder approval, including mergers and other material transactions. This ownership by the Principal Stockholders may also have the effect of deterring hostile takeovers, delaying or preventing changes in control or changes in management, or limiting the ability of other stockholders to approve transactions that they may deem to be in the best interests of the Company. Moreover, this ownership by the Principal Stockholders may also adversely affect the trading price of the Common Stock to the extent investors perceive a disadvantage in owning stock of a company with such concentrated ownership.

Certain of the Principal Stockholders and members of the Board are not limited in their ability to compete with the Company, and the corporate opportunity provisions in the Charter permit certain of the Principal Stockholders and members of the Board to benefit from corporate opportunities that might otherwise be available to us.

The Charter provides that the Principal Stockholders and any member of the Board who is not at the time an officer of the Company, or their respective affiliates are not restricted from owning assets or engaging in businesses that compete directly or indirectly with the Company and that the Company renounces any interest or expectancy in any business opportunity that may be from time to time presented to the Principal Stockholders and any member of the Board who is not at the time an officer of the Company, or their respective affiliates. In particular, subject to the limitations of applicable law, the Charter, among other things:

- permits the Principal Stockholders or any member of the Board who is not at the time an officer of the Company or their respective affiliates to conduct business that competes with the Company and to make investments in any kind of property in which the Company may make investments; and

- provides that if the Principal Stockholders or any member of the Board who is not at the time an officer of the Company or their respective affiliates becomes aware of a potential business opportunity, transaction or other matter, they will have no duty to communicate or offer that opportunity to the Company.

The Principal Stockholders or any member of the Board who is not at the time an officer of the Company, or their respective affiliates, 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 the Company may not become aware of or otherwise have the ability to pursue such opportunity. Further, such businesses may choose to compete with the Company for these opportunities, possibly causing these opportunities to not be available to the Company or causing them to be more expensive for the Company to pursue. In addition, the Principal Stockholders and any member of the Board who is not at the time an officer of the Company, and their respective affiliates, may dispose of mining or other properties or other assets in the future, without any obligation to offer the Company the opportunity to purchase any of those assets. As a result, the Company's renouncing of its interest and expectancy in any business opportunity that may be from time to time presented to the Principal Stockholders and any member of the Board who is not at the time an officer of the Company, and their respective affiliates, could adversely impact the Company's business or prospects if attractive business opportunities are procured by such parties for their own benefit rather than for the Company's.

Certain of the Principal Stockholders or their affiliates are established participants in the oil and natural gas industry and may have resources greater than ours, which may make it more difficult for the Company to compete with the Principal Stockholders or their affiliates 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 stockholders, on the one hand, and the Principal Stockholders or their affiliates, on the other hand, will be resolved in our favor. As a result, potential competition from the Principal Stockholders or their affiliates could adversely impact our results of operations.

Anti-takeover provisions in our organizational documents might discourage or delay acquisition bids or merger proposals, which may adversely affect the market price of the Common Stock and limit the price investors might be willing to pay in the future for the Common Stock.

The Charter and Bylaws contain provisions that may discourage unsolicited takeover proposals that stockholders may consider to be in their best interests. These provisions:

- authorize the issuance of undesignated preferred stock, the terms of which may be established and the shares of which may be issued without stockholder approval, and which may include super voting, special approval, dividend or other rights or preferences superior to the rights of Common Stock;
- prohibit stockholder action by written consent, which requires all stockholder actions to be taken at a meeting of the Company's stockholders at such time as the Principal Stockholders cease to own more than a majority of the outstanding shares of the Common Stock;
- provide for the Board 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 that may be elected by holders of preferred stock, if any;
- provide that the Board is expressly authorized to make, alter or repeal the Bylaws; and
- establish advance notice requirements for nominations of directors or for proposing matters that can be acted upon by stockholders at stockholder meetings.

These anti-takeover provisions could discourage, delay or prevent a transaction involving a change in control of the Company altogether, even if doing so would benefit our stockholders. These provisions could also discourage proxy contests and make it more difficult for our stockholders to elect directors of their choosing and to cause the Company to take other corporate actions our stockholders desire. Further, the A&R Stockholders' Agreement, the staggered Board and the ability of the Board to designate the terms of and issue new series of preferred stock may make the removal of management more difficult and may discourage transactions that otherwise could involve payment of a premium over prevailing market prices for our securities.

The Charter designates the Court of Chancery of the State of Delaware and, to the extent enforceable, the federal district courts of the United States of America as the sole and exclusive forum for certain types of actions and proceedings that may be initiated by our stockholders, which could limit such stockholders' ability to obtain a favorable judicial forum for disputes with the Company or our directors, officers, employees or agents.

The Charter provides that, unless the Company consents in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware (or, if the Court of Chancery of the State of Delaware does not have jurisdiction, the Superior Court of the State of Delaware, or, if the Superior Court of the State of Delaware does not have jurisdiction, the United States District Court for the District of Delaware, in each case, subject to that court having personal jurisdiction over the indispensable parties named defendants therein) will, to the fullest extent permitted by applicable law, be the sole and exclusive forum for any stockholder (including a beneficial owner) to bring (i) any derivative action or proceeding brought on the Company's behalf, (ii) any action asserting a claim of breach of a fiduciary duty owed by any of the Company's current or former directors, officers, employees or stockholders to the Company or its stockholders, (iii) any action asserting a claim arising pursuant to any provision of the DGCL, the Charter or the Bylaws (as either may be amended or restated), or as to which the DGCL confers jurisdiction to the Court of Chancery of the State of Delaware, the Charter or Bylaws, or (v) any other action asserting a claim against the Company that is governed by the internal affairs doctrine.

The Charter also provides that, unless the Company consents in writing to an alternate forum, to the fullest extent permitted by applicable law, the federal district courts of the United States will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act. Notwithstanding the foregoing, the exclusive forum provision will not apply to suits brought to enforce any liability or duty created by the Exchange Act or any other claim for which the federal courts have exclusive jurisdiction. While the Delaware courts have determined that such choice of forum provisions are facially valid, a stockholder may nevertheless seek to bring a claim in a venue other than those designated in the exclusive forum provisions, and there can be no assurance that such provisions will be enforced by a court in those other jurisdictions. If a court were to find the exclusive-forum provisions contained in the Charter to be inapplicable or unenforceable in an action, the Company may incur additional costs associated with resolving such action in other jurisdictions, which could harm our business.

To the fullest extent permitted by law, 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 the Charter described in the preceding sentence. This choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with the Company or our directors, officers, employees or agents, which may discourage such lawsuits against the Company and such persons. Alternatively, if a court were to find these provisions of the Charter inapplicable to, or unenforceable in respect of, one or more of the specified types of actions or proceedings, the Company 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 an "emerging growth company" and we cannot be certain if the reduced disclosure requirements applicable to emerging growth companies will make our Common Stock less attractive to investors.

We are an "emerging growth company," as defined in the JOBS Act, and intend to take advantage of certain exemptions from various reporting requirements that are applicable to other public companies, including, but not limited to, not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved. We intend to take advantage of these reporting exemptions until the Company is no longer an emerging growth company. We cannot predict if investors will find our Common Stock less attractive because we will rely on these exemptions. If some investors find the Common Stock less attractive as a result, there may be a less active trading market for the Common Stock and its trading price may be more volatile.

As Old Atlas's successor entity, the Company may remain an emerging growth company for up to five years after the IPO, although it will lose that status sooner if it has more than \$1.235 billion of revenues in a fiscal year, has more than \$700 million in market value of Common Stock held by non-affiliates as of any June 30 or issues more than \$1.0 billion of non-convertible debt over a rolling three-year period.

To the extent that the Company relies on any of the exemptions available to emerging growth companies, you will receive less information about its executive compensation and internal control over financial reporting than issuers that are not emerging growth companies.

We may issue preferred stock the terms of which could adversely affect the voting power or value of the Common Stock.

The Charter authorizes the Company to issue, without the approval of its stockholders, one or more classes or series of preferred stock having such designations, preferences, limitations and relative rights, including preferences over Common Stock respecting dividends and distributions, as the Board may determine. The terms of one or more classes or series of preferred stock could adversely impact the voting power or value of the Common Stock. For example, the Company might grant holders of preferred stock the right to elect some number of its directors in all events or on the happening of specified events or the right to veto specified transactions. Similarly, the repurchase or redemption rights or liquidation preferences the Company might assign to holders of preferred stock could affect the residual value of the Common Stock.

Because the Company has elected to take advantage of the extended transition period pursuant to Section 107 of the JOBS Act, its financial statements may not be comparable to those of other public companies.

Section 107 of the JOBS Act provides that an emerging growth company can use the extended transition period provided in Section 7(a)(2)(B) of the Securities Act for complying with new or revised accounting standards. This permits an emerging growth company to delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. The Company has elected to take advantage of this extended transition period and, as a result, will comply with new or revised accounting standards on the relevant dates on which adoption of such standards is required for private companies. Accordingly, our financial statements may not be comparable to companies that comply with public company effective dates, and our stockholders and potential investors may have difficulty in analyzing our operating results by comparing the Company to such companies.

As a result of the Up-C Simplification, the anticipated net cash tax savings attributable to our prior Up-C structure are no longer available to us. The loss of these tax benefits is likely to adversely impact our future tax liability, and this adverse impact could significantly outweigh any costs savings and/or other benefits that resulted from the Up-C Simplification, which could adversely affect our liquidity or the value of our Common Stock.

Under our previous Up-C structure, exchanges of Operating Units for Old Atlas Class A Common Stock pursuant to the terms of the Previous Atlas Operating LLC Agreement generally resulted in certain tax basis increases related to Atlas Operating's assets. These tax basis increases were expected to generate additional depreciation, depletion, and amortization deductions which in turn, would have reduced our taxable income and resulted in reduced cash tax liabilities. The Company's exchange of Operating Units for Common Stock in connection with the tax-deferred Up-C Simplification is not expected to result in any such tax basis increases, except to the extent of the limited amount of gain that might have been recognized by the holders of Operating Units as a result of certain debt-financed deductions. Moreover, following completion of the Up-C Simplification, because no Operating Units are held by any person other than Old Atlas, there will be no future exchanges of Operating Units for shares of Old Atlas Class A Common Stock or the Company's Common Stock. Accordingly, the net cash tax savings that were expected to be available to Old Atlas under the previous Up-C structure are no longer be available to us since the completion of the Up-C Simplification. Foregoing these potential cash tax savings attributable to the Up-C structure will likely to increase our tax liability materially, and such increased tax liability could significantly outweigh the anticipated benefits of the Up-C Simplification, reducing the amount of cash available to use in our business or distribute to our stockholders, which could adversely affect our liquidity or the value of our Common Stock.

The Company's new structure may impact our ability to offer equity consideration in acquisitive transactions on a tax-deferred basis, which could increase the price we must pay in such acquisition or adversely affect our ability to compete with other potential acquirors.

Our previous Up-C structure permitted us to use Operating Units, rather than Old Atlas Class A Common Stock, as equity consideration in acquisitive transactions. Due to the classification of Atlas Operating as a partnership for U.S. federal income tax purpose, many sellers in potential acquisitive transactions would have been able to receive Operating Units, but not shares of Old Atlas Class A Common Stock, as tax-deferred consideration for assets or equity of a target company, making Operating Units a preferable form of equity consideration. The Up-C Simplification eliminated our ability to offer Operating Units as equity consideration, such that we may not be able to offer tax-deferred equity consideration to potential sellers, while many other companies in the energy industry are organized as partnerships and would have this ability. As such, our inability to offer tax-deferred equity consideration in acquisitive transactions could require us to pay more for assets or target companies than we previously would have or could adversely affect our ability to compete with other potential acquirors.

Risks Related to Environmental, Mining and Other Regulations

Silica-related health issues and legislation, including compliance with existing or future regulations relating to respirable crystalline silica, or litigation could have an adverse effect on our business, reputation or results of operations.

We are subject to laws and regulations relating to human exposure to crystalline silica. For example, OSHA has implemented rules establishing a more stringent permissible exposure limit for exposure to respirable crystalline silica and provided other provisions to protect employees. These rules require compliance with engineering control obligations to limit exposures to respirable crystalline silica in connection with hydraulic fracturing activities. In June 2022, the DOL's MSHA launched a new enforcement initiative to better protect U.S. miners from health hazards resulting from repeated overexposure to respirable crystalline silica. MSHA reports that silica dust affects thousands of miners each year and, without adequate protection, miners face risks of serious illnesses, many of which can be fatal.

As part of the program, MSHA will conduct silica dust-related mine inspections and expand silica sampling at mines, while providing mine operators with compliance assistance and best practices to limit miners' exposure to silica dust.

Specifically, the silica enforcement initiative will include:

- Spot inspections at mines with a history of repeated silica overexposures to closely monitor and evaluate health and safety conditions.
- Increased oversight and enforcement of known silica hazards at mines with previous citations for exposing miners to silica dust levels over the existing permissible exposure limit of 100 micrograms. For mines where the operator has not timely abated hazards, MSHA will issue a withdrawal order until the silica overexposure hazard has been abated.
- Expanded silica sampling at mines to ensure inspectors' samples represent the mines, commodities, and occupations known to have the highest risk for overexposure.
- A focus on sampling during periods of the mining process that present the highest risk of silica exposure for miners.
- Reminding miners about their rights to report hazardous health conditions, including any attempt to tamper with the sampling process.

In addition, the DOL's Educational Field and Small Mine Services staff will provide compliance assistance and outreach to mine operators, unions and other mining community organizations to promote and advance protections for miners.

The MSHA initiative is intended to take immediate action to reduce the risks of silica dust exposure as the DOL's development of a mining industry standard continues. Then, in a related subsequent regulatory action, on July 13, 2023, the DOL published a notice of proposed rulemaking which would require operators to limit miners' permissible exposure limit to respirable crystalline silica to 50 micrograms per cubic meter of air for a full shift exposure and take immediate corrective action if such exposure limits are exceeded. The proposed rule also establishes related requirements for exposure sampling, medical surveillance, and updated respiratory protection equipment standards.

If we are unable to satisfy these obligations, or are not able to do so in a manner that is cost effective or attractive to our customers, our business operations may be adversely affected or availability or demand for our products could be significantly affected. Federal and state regulatory authorities, including OSHA and MSHA, and analogous state agencies may continue to propose changes in their regulations regarding workplace exposure to crystalline silica, such as permissible exposure limits and required controls and personal protective equipment, and we can provide no assurance that we will be able to comply with any future laws and regulations relating to exposure to crystalline silica that are adopted, or that costs of complying with such future laws and regulations or any costs arising from non-compliance would not have an adverse effect on our operating results by requiring us to modify or cease our operations.

In addition, the inhalation of respirable crystalline silica is associated with health risks, including the lung disease silicosis. There is evidence of an association between crystalline silica exposure or silicosis and lung cancer and possible association with other diseases, including immune system disorders such as scleroderma. These health risks have been, and may continue to be, a significant issue confronting the hydraulic fracturing industry. Concerns over silicosis and other potential adverse health effects, as well as concerns regarding potential liability from the use of frac sand, may have the effect of discouraging our customers' use of frac sand. The actual or perceived health risks of handling frac sand could adversely affect hydraulic fracturing service providers, including us, through reduced use of frac sand, the threat of product liability or employee lawsuits naming us as a defendant, increased scrutiny by federal, state and local regulatory authorities of us and our customers or reduced financing sources available to the hydraulic fracturing industry.

Over the past few decades, a number of companies that utilize silica in their operations have been named as a defendant, usually among many defendants, in numerous product liability lawsuits brought by or on behalf of current or former employees or customers alleging damages caused by silica exposure. The silica-related litigation brought against us to date and associated litigation costs, settlements and verdicts have not resulted in a material liability to us, and we presently maintain insurance policies where available. However, we may continue to have silica exposure claims filed against us in the future, including claims that allege silica exposure for periods or in areas not covered by insurance, and the costs, outcome and impact to us of any pending or future claims is not certain. Any such pending or future claims or inadequacies of our insurance coverage could have a material adverse effect on our business, reputation, financial condition, and results of operations.

Federal, state and local legislative and regulatory initiatives relating to hydraulic fracturing and the potential for related litigation could result in increased costs, additional operating restrictions or delays for our customers, which could cause a decline in the demand for our proppant and negatively impact our business, results of operations and financial condition.

We supply proppant to hydraulic fracturing operators in the oil and natural gas industry. Hydraulic fracturing is an important practice that is used to stimulate production of oil and natural gas from low permeability hydrocarbon bearing subsurface rock formations. The hydraulic fracturing process involves the injection of water, proppant, and chemicals under pressure into the formation to fracture the surrounding rock, increase permeability and stimulate production.

Although we do not directly engage in hydraulic fracturing activities, our customers purchase our proppant for use in their hydraulic fracturing activities. Hydraulic fracturing is typically regulated by state oil and natural gas commissions and similar agencies. Some states have adopted, and other states are considering adopting, regulations that could impose new or more stringent permitting, disclosure or well construction requirements on hydraulic fracturing operations. Aside from state laws, local land use restrictions may restrict drilling in general or hydraulic fracturing in particular. Municipalities may adopt local ordinances attempting to prohibit hydraulic fracturing altogether or, at a minimum, allow such fracturing processes within their jurisdictions to proceed but regulating the time, place and manner of those processes. In addition, federal agencies have started to assert regulatory authority over the process and various studies have been conducted or are currently underway by the EPA and other federal agencies concerning the potential environmental impacts of hydraulic fracturing activities. At the same time, certain environmental groups have suggested that additional laws may be needed and, in some instances, have pursued voter ballot initiatives to more closely and uniformly limit or otherwise regulate the hydraulic fracturing process, and legislation has been proposed by some members of Congress to provide for such regulation.

The adoption of new laws or regulations at the federal, state or local levels imposing reporting obligations on, or otherwise limiting, delaying, restricting, or prohibiting the hydraulic fracturing process could make it more difficult to complete oil and natural gas wells, increase our customers' costs of compliance and doing business, and otherwise adversely affect the hydraulic fracturing services they perform, which could negatively impact demand for our proppant. In addition, heightened political, regulatory, and public scrutiny of hydraulic fracturing practices could expose us or our customers to increased legal and regulatory proceedings, which could be time-consuming, costly, or result in substantial legal liability or significant reputational harm. We could be directly affected by adverse litigation involving us, or indirectly affected if the cost of compliance limits the ability of our customers to operate. Such costs and scrutiny could directly or indirectly, through reduced demand for our proppant, have an adverse effect on our business, financial condition and results of operations.

We and our customers are subject to extensive environmental and natural resources regulations that impose, and will continue to impose, risks of significant costs and liabilities. In addition, future regulations, or more stringent enforcement of existing regulations, could increase those costs and liabilities, which could adversely affect our results of operations.

We are subject to a variety of federal, state and local environmental laws and regulations affecting the mining and mineral processing industry, including, among others, those relating to environmental permitting and licensing, plant and wildlife protection, wetlands protection, air and water emissions, greenhouse gas emissions, water pollution, waste management, including the transportation and disposal of waste and other materials, remediation of soil and groundwater contamination, land use, reclamation and restoration of properties, hazardous materials and natural resources. These laws and regulations have imposed, and will continue to impose, numerous obligations on our operations and the operations of our customers, including the acquisition of permits or other approvals to conduct regulated activities, the imposition of restrictions on the types, quantities and concentrations of various substances that may be released into the environment or injected in non-productive formations below ground in connection with oil and natural gas drilling and production activities, the incurrence of capital expenditures to mitigate or prevent releases of materials from our equipment or facilities or from customer locations where we are providing services, the imposition of substantial liabilities for pollution resulting from our operations, and the application of specific health and safety criteria addressing worker protection. Some environmental laws impose substantial penalties for noncompliance, and others, such as CERCLA, impose strict, retroactive and joint and several liability for the remediation of releases of hazardous substances.

Further, our business activities present risks of incurring significant environmental costs and liabilities, including costs and liabilities resulting from our handling of oilfield and other wastes, because of air emissions and wastewater discharges related to our operations, and due to historical oilfield industry operations and waste disposal practices. Moreover, accidental releases or spills may occur in the course of our operations or at facilities where our wastes are taken for reclamation or disposal, and we cannot assure you that we will not incur significant costs and liabilities as a result of such releases or spills, including any third-party claims for injuries to persons or damages to properties or natural resources. Remedial costs and other damages arising as a result of environmental laws and costs associated with changes in environmental laws and regulations could be significant and have an adverse effect on our liquidity, results of operations and financial condition.

Additionally, any failure by us or by our customers to comply with applicable environmental laws and regulations may cause governmental authorities to take actions that could adversely impact our operations and financial condition, including:

- assessment of sanctions including administrative, civil or criminal penalties;
- denial, modification, or revocation of permits or other authorizations;
- occurrence of restrictions, delays or cancellations in permitting or development or performance of projects or operations;
- imposition of injunctive obligations or other limitations on our operations, including cessation of operations; and
- requirements to perform site investigatory, remedial, or other corrective actions or the incurrence of capital expenditures.

Moreover, environmental requirements, and the interpretation and enforcement of these requirements, change frequently and have tended to become more stringent over time. Future environmental laws and regulations could restrict our ability to expand our facilities or extract our mineral deposits or could require us to acquire costly equipment or to incur other significant expenses in connection with our business. The costs associated with complying with such requirements could have an adverse effect on our business, financial condition and results of operations. Additionally, our customers may not be able to comply with any new or amended laws and regulations, which could cause our customers to curtail or cease operations and thus reduce demand for our products and services. We cannot at this time reasonably estimate our costs of compliance or the timing of any costs associated with any new or amended laws and regulations, or any material adverse effect that any new or modified standards will have on our customers and, consequently, on our operations.

Our and our customers' operations are subject to a number of risks arising out of the threat of climate change, including regulatory, political, litigation and financial risks, which could result in increased operating and capital costs for our customers and reduced demand for our products and services.

The threat of climate change continues to attract considerable attention in the United States and around the world. Numerous proposals have been made and could continue to be made at the international, national, regional and state levels of government to monitor and limit existing emissions of GHGs. These efforts have included consideration of cap-and-trade programs, carbon taxes, GHG disclosure obligations and regulations that directly limit GHG emissions from certain sources. Moreover, President Biden highlighted addressing climate change as a priority under his Administration, issued several Executive Orders related to climate change, recommitted the United States to long-term international goals to reduce emissions and continues to require executive agencies to incorporate climate change considerations in their decision-making and policy setting. As a result, our operations and the operations of our natural gas and crude oil exploration and production customers are subject to a series of regulatory, political, litigation, financial, and physical risks associated with the production and processing of fossil fuels and the emission of GHGs.

At the federal level, the EPA has adopted rules that, among other things, establish construction and operating permit reviews for GHG emissions from certain large stationary sources, require the monitoring and annual reporting of GHG emissions from certain industrial sources, and impose new standards reducing methane emissions from oil and gas operations through limitations on venting and flaring and the implementation of enhanced emission leak detection and repair requirements. The regulation of methane emissions from oil and gas facilities has been subject to considerable attention in recent years, and the EPA recently finalized rules in December 2023 that establish new and more stringent standards for the use of emission capture and control equipment and systems, leak detection equipment and monitoring, and so-called "green well completion" requirements for both new and existing sources across the oil and gas sector. The BLM has also proposed rules intended to curtail the waste of methane flared, vented, or leaked from oil and gas operations on federal and Tribal lands. In addition, the U.S. Congress may continue to consider and pass legislation related to the reduction of GHG emissions, including methane and carbon dioxide. For example, the IRA, which appropriates significant federal funding for renewable energy initiatives and, for the first time ever, imposes a fee on GHG emissions from certain facilities, was signed into law in August 2022. These ongoing regulatory actions and the emissions fee and funding provisions of the IRA could increase operating costs within the oil and gas industry and accelerate the transition away from fossil fuels, which could in turn reduce demand for our products and services and adversely affect our and our customers' business and results of operations. We note that the regulatory activities discussed above are subject to ongoing intense political debate and could be subject to major modification depending upon the outcome of the 2024 election cycle.

At the international level, the United Nations-sponsored Paris Agreement, though non-binding, calls for signatory nations to limit their GHG emissions through individually determined reduction goals every five years after 2020. President Biden has recommitted the United States to the Paris Agreement and, in April 2021, announced a goal of reducing the United States' emissions by 50% to 52% below 2005 levels by 2030. Various U.S. states and local governments have also publicly committed to furthering the goals of the Paris Agreement. Moreover, the international community convenes annually to negotiate further pledges and initiatives, such as the Global Methane Pledge (a collective goal to reduce global methane emissions by 30% from 2020 levels by 2030) and, more recently, an agreement to transition "away from fossil fuels in energy systems in a just, orderly and equitable manner" and increase renewable energy capacity so as to achieve net zero by 2050, although no timeline for doing so was set. The impacts of these orders, pledges, agreements and any legislation or regulation promulgated to fulfill the United States' commitments under the Paris Agreement or other international agreements cannot be predicted at this time.

Litigation risks are also increasing, as a number of cities and other entities have sought to sue various oil and natural gas companies in state or federal court, alleging, among other things, that such companies created public nuisances by producing fuels that contributed to climate change and its effects, such as rising sea levels or extreme weather events, and therefore are responsible for resulting infrastructure damages, or alleging that the companies have been aware of the adverse effects of climate change for some time but defrauded their investors by failing to adequately disclose those impacts. Our customers' involvement in such a case, regardless of the substance of the allegations, could have adverse reputational impacts and any unfavorable ruling in any such case could significantly impact their operations and consequently could have an adverse impact on demand for our products and services.

There are also increasing financial risks for the oil and gas sector as shareholders, bondholders, and lenders may elect in the future to shift some or all of their investments into non-fossil fuel energy sectors. Certain institutional lenders have shifted their investment practices to favor non-fossil fuel energy sources, such as wind and solar, and some of them may elect not to provide funding to the oil and gas sector. Many of the largest U.S. banks have made "net zero" carbon emission commitments and have announced that they will be assessing financed emissions across their portfolios and taking steps to quantify and reduce those emissions. Additionally, there is also a risk that financial institutions will be pressured or required to adopt policies that limit funding for the oil and gas sector. In 2023, the six largest U.S. banks performed a pilot climate scenario analysis exercise, pursuant to Federal Reserve instructions. Furthermore, the SEC has proposed rules that would mandate extensive disclosure of climate risks, including financial impacts, related governance and strategy, and GHG emissions for all U.S.-listed public companies. Enhanced climate-related disclosure requirements could result in additional legal and accounting costs and accelerate the trend of certain stakeholders and lenders restricting or seeking more stringent conditions with respect to their investments in carbon-intensive sectors. Such disclosure regulations could also lead to increased litigation risks and reputational harm. Any material reduction in the capital available to us or our customers could make it more difficult to secure funding for our growth projects or our customers' exploration and production activities, which could reduce the demand for our products and services and impact our financial performance.

Finally, physical climate change impacts, including increased frequency and severity of storms, severe and persistent drought conditions, winter storms, floods and other climatic events, may potentially have a large impact on our operations and financial results, and our customers' exploration and production operations. While our consideration of changing climatic conditions and inclusion of safety factors in the design and operation of our facilities is intended to reduce the uncertainties that climate change and other events may potentially introduce, our ability to mitigate the adverse impacts of these events depends in part on the effectiveness of our disaster preparedness and response and business continuity planning and those of our customers, which may have not considered or prepared for every eventuality.

Restrictions on our operations and those of our customers intended to protect certain species of wildlife could have an adverse impact on our ability to expand some of our existing operations or limit our customers' ability to develop new oil and natural gas wells.

Various federal and state statutes prohibit certain actions that adversely affect endangered or threatened species and their habitat, migratory birds, wetlands, and natural resources. These statutes include the ESA, the MBTA and the CWA. The USFWS may designate critical habitat areas that it believes are necessary for survival of threatened or endangered species. A critical habitat designation could result in further material restrictions on federal land use or on private land use and could delay or prohibit land access or development. Where takings of or harm to species or damages to wetlands, habitat, or natural resources occur or may occur, government entities or at times private parties may act to prevent or restrict oil and natural gas exploration activities or seek damages for any injury, whether resulting from drilling or construction or releases of oil, wastes, hazardous substances or other regulated materials, and in some cases, criminal penalties may result.

The DSL is one example of a species that, if listed as endangered or threatened under the ESA, could impact our operations and the operations of our customers. On June 3, 2023, the USFWS proposed to list the DSL as an endangered species under the ESA, but did not concurrently propose to designate any critical habitat. In the proposed rule the USFWS determined that designating DSL critical habitat was prudent, but not determinable at the time of issuance, thus triggering a one-year review period for the future designation of critical habitat. If the DSL endangerment listing is finalized as proposed, our operations and the operations of our customers in any area that is later designated as DSL critical habitat may be limited, delayed or, in some circumstances, prohibited, and we and our customers could be required to comply with expensive mitigation measures intended to protect the DSL and its habitat. However, to mitigate the impact of some of these risks, we are a participant in a CCAA for DSL habitat in non-federal lands in certain counties of western Texas, which was approved by the USFWS in January 2021. We have been a contributor to and supporter of the CCAA since its inception and our participation in the CCAA and our other voluntary conservation measures for the benefit of the DSL, including setting aside as much as 17,000 acres for DSL habitat, helps reduce the risk of disruptions to our business and operations in the event DSL critical habitat is designated in the areas in which we operate.

Another species the recent listing of which could impact the operations of our customers is the lesser prairie-chicken. In November 2022, the USFWS formally listed two Distinct Population Segments (“DPSs”) of the lesser prairie-chicken under the ESA. The Southern DPS, the habitat of which includes portions of southeast New Mexico and western Texas, was listed as endangered, while the Northern DPS, the habitat of which spans from northern Texas through eastern Oklahoma and into southeastern Colorado and southwestern Nebraska, was listed as threatened. The listed territory of the Southern DPS could overlap with the operating areas of some of our customers, who in turn may be adversely affected by any restrictions which arise as a result of the endangerment determination. The identification or designation of further previously unprotected species as threatened or endangered in areas where we or our customers operate could cause us to incur increased costs arising from species protection measures or could result in limitations on our customers that result in reduced demand for our services, adversely affecting our results of operations. There is also increasing interest from a variety of stakeholders, including investors and institutional lenders, in nature-related matters beyond protected species, such as general biodiversity, which may similarly require us to incur costs or take other measures which may materially impact our business or operations.

Any restrictions on oil and natural gas development on federal lands have the potential to adversely impact our operations and the operations of our customers.

Many of our customers possess leases in New Mexico, which are granted by the federal government and administered by the BLM. Operations conducted by our customers on federal oil and natural gas leases must comply with numerous additional statutory and regulatory restrictions. These leases contain relatively standardized terms requiring compliance with detailed regulations. Under certain circumstances, the BLM may require operations on federal leases to be suspended or terminated. Any such suspension or termination of our customers’ leases could reduce demand for our products or services and adversely impact our results of operations.

The Biden Administration has taken several actions to curtail oil and natural gas activities on federal lands including a temporary pause on new oil and gas leasing, increases in royalty rates, and a reduction in the total acreage available through lease sales. In November 2022, BLM also issued a proposed rule to reduce the waste of natural gas from venting, flaring, and leaks during oil and gas production activities on Federal and Native American leases. More recently, in July 2023, BLM proposed further reforms to the federal oil and gas leasing program, including increased bonding requirements and the codification of certain IRA provisions related to minimum bids, base rental rates, and royalty rates. While we cannot predict the ultimate impact of these actions or whether the Department of Interior and BLM will implement further reforms or operating restrictions, any revisions to the federal leasing or permitting process that make it more difficult for our customers to pursue operations on federal lands and operate economically may materially adversely impact our operations. The Biden Administration’s ongoing development and implementation of a Social Cost of GHGs (“SC-GHG”) (formerly known as the Social Cost of Carbon or “SCC”) metric may also impact future regulatory decision-making and our customers’ ability to obtain federal leases. In April 2023, the Fifth U.S. Circuit Court of Appeals (the “Fifth Circuit”) dismissed challenges to preliminary then-SCC estimates for lack of standing. However, litigation related to the use of this metric could be revived once federal agencies beginning relying upon finalized SC-GHG values for discrete agency actions. In September 2023, the Biden Administration announced it would be directing federal agencies to consider SC-GHG in budgeting, procurement, and other agency decisions, including environmental reviews, where appropriate. The implementation of the SC-GHG metric in agency decision-making, and the result of any related litigation, could impact the character of new regulations on certain of the federal oil and gas leases of our customers, which in turn could impact our results of operations.

Additionally, oil and natural gas operations on federal lands, and related infrastructure projects may be impacted by recent changes to NEPA implementing regulations. In 2020, the Trump Administration made a variety of substantive and procedural changes to NEPA, including limiting the scope of review to the direct effects of a proposed project on the environment. A new “Final Rule,” introduced by the Council on Environmental Quality (“CEQ”) under the Biden Administration, which took effect in May 2022, reversed several changes introduced by the 2020 rule, including the scope limitations. The 2022 Final Rule requires NEPA reviews to incorporate consideration of indirect and cumulative impacts of the proposed project, including effects on climate change and GHGs, consistent with pre-2020 requirements. The new rule also allows agencies to create stricter NEPA rules as they see fit, but left in place the 2020 rule two-year time limit to complete environmental impact statements. More recently, in January 2023, the CEQ released updated guidance for agency consideration of GHG emissions and climate change impacts in environmental reviews, which includes, among other recommendations, best practices for analyzing and communicating climate change effects. Additionally, in July 2023, the CEQ proposed revisions to NEPA that would expand requirements to analyze the cumulative effects of the project on climate change and consider any disproportionate impact of the project on communities with environmental justice concerns as well enhance certain project obligations for implementing environmental mitigation measures. To the extent changes to the NEPA implementing regulations restrict or limit the ability of our customers to pursue oil and gas operations and development projects in an economical manner, demand for our products and services may be impacted, which could adversely affect our results of operations.

Operations on federal lands also face litigation risks. From time to time, legal challenges have been filed relating to federal leasing decisions, such as for failure to adequately assess the impact of any increase of GHG emissions resulting from increased production on federal lands. Separately, there is a risk that authorizations required for existing operations may be delayed to the point that it causes a business disruption, and we cannot guarantee that further action will not be taken to curtail oil and natural gas development on federal land. For example, certain lawmakers have proposed to reduce or ban further leasing on federal lands or to adopt further restrictions on such leasing. To the extent such legislation is passed, it may adversely impact our customers’ operations, which could negatively impact our financial performance or results of operations.

We and our customers are subject to regulations that impose stringent occupational health, safety and labor standards on numerous aspects of our operations.

Multiple aspects of our and our customers’ operations are subject to occupational health and safety standards, including our mining operations, our trucking operations, and employee exposure to crystalline silica.

Our mining operations are subject to the Mine Safety and Health Act of 1977, as amended by the Mine Improvement and New Emergency Response Act of 2006 (as amended, the “*Mine Act*”), which imposes stringent health and safety standards on numerous aspects of mineral extraction and processing operations, including the training of personnel, operating procedures, operating equipment and other matters. Our operating locations are regularly inspected by MSHA for compliance with the Mine Act.

The DOT and various state agencies exercise broad powers over our trucking services, generally governing matters including authorization to engage in motor carrier service, equipment operation, safety, alcohol and drug testing, and financial reporting. In addition, our operations must comply with the Fair Labor Standard Act, which governs such matters as wages and overtime, and which is administered by the DOL. We may be audited periodically by the DOT or the DOL to ensure that we are in compliance with these safety, hours-of-service, wage and other rules and regulations, and failure to comply could result in material costs.

We are also subject to laws and regulations relating to human exposure to crystalline silica. Several federal and state regulatory authorities, including MSHA and OSHA, may continue to propose changes to their regulations regarding workplace exposure to crystalline silica, such as permissible exposure limits, required controls and personal protective equipment. Our failure to comply with existing or new health and safety standards, or changes in such standards or the interpretation or enforcement thereof, could require us or our customers to modify operations or equipment, shut down some or all operating locations, impose significant restrictions on our ability to conduct operations, impose fines or otherwise have an adverse effect on our business, financial condition, employee relations and results of operations.

We and our customers are subject extensive permitting regulations and obligations. Our or our customers’ failure to obtain, maintain, renew, or comply with the terms of the permits we require to operate may adversely affect our results of operations.

In addition to the regulatory matters described above, we and our customers are subject to extensive permitting obligations and regulations. In order to obtain permits and renewals of permits in the future, we may be required to prepare and present data to governmental authorities pertaining to the potential adverse impact that any proposed excavation or production activities, individually or in the aggregate, may have on the environment. Certain approval procedures may require preparation of archaeological surveys, endangered species studies, and other studies to assess the environmental impact of new sites or the expansion of existing sites. Compliance with these regulatory requirements is expensive and significantly lengthens the time needed to develop a site. Finally, obtaining or renewing required permits is sometimes delayed or prevented due to community opposition and other factors beyond our control.

Our future success depends on, among other things, our ability to extract our proppant deposits profitably, and our customers' ability to operate their businesses as they currently do. The denial or cancellation of a permit essential to our or our customers' operations or the imposition of conditions with which it is not practicable or feasible to comply could have an adverse effect on our business. Significant opposition to a permit by neighboring property owners, members of the public or other third parties or a delay in the environmental review and permitting process also could impair or delay our or our customers' operations. Additionally, new regulations or permitting requirements could require us to modify existing permits or obtain new permits, implement additional pollution control technology, curtail operations (including our ability to extract or the pace of extraction of mineral deposits), significantly increase our operating costs or impose additional operating restrictions among our customers (including impacts that may impact our customers' ability to use our proppant) that reduce demand for our products or services. Such permit proceedings are often subject to public notice and comment, and third parties, including nongovernmental environmental organizations, may challenge government actions related to permits required for our operations. A failure to timely obtain the permits required for the operation of our business may adversely affect our results of operations.

Risks Related to the Hi-Crush Transaction

The Hi-Crush Transaction is subject to a number of conditions which may delay or reduce the anticipated benefits of the Hi-Crush Transaction, result in additional expenditures of money and resources, or result in termination of the Merger Agreement.

Our obligations and the obligations of Hi-Crush to consummate the Hi-Crush Transaction are subject to the satisfaction (or waiver by all parties, to the extent permissible under applicable laws) of a number of conditions described in the Merger Agreement (as defined in Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations.—Recent Developments"), including Hi-Crush's delivery of a written consent approving the Hi-Crush Transaction signed by Hi-Crush stockholders holding at least 95% of the voting power. Many of the conditions to completion of the Hi-Crush Transaction are not within our control and we cannot predict when, or if, these conditions will be satisfied. If any of these conditions are not satisfied or waived prior to the End Date (as such term is defined in the Merger Agreement), it is possible that the Merger Agreement may be terminated.

Although the parties have agreed to use reasonable best efforts, subject to certain limitations, to complete the Hi-Crush Transaction promptly, these and other conditions may fail to be satisfied. In addition, completion of the Hi-Crush Transaction may take longer, and could cost more, than we expect. The requirements for obtaining the required clearances and approvals could delay the completion of the Hi-Crush Transaction for a significant period of time or prevent them from occurring. Any delay in completing the Hi-Crush Transaction may adversely affect the cost savings and other benefits that we expect to achieve if the Hi-Crush Transaction and the integration of Hi-Crush's business into ours are completed within the expected timeframe.

We may not realize the anticipated benefits and synergies expected from the Hi-Crush Transaction.

Achieving the expected benefits of the Hi-Crush Transaction depends in part on successfully consolidating the Company's and Hi-Crush's functions and integrating their operations and procedures in a timely and efficient manner, as well as being able to realize the anticipated growth opportunities and synergies from combining the companies' businesses and operations. We may fail to realize the anticipated benefits and synergies expected from the Hi-Crush Transaction, which could adversely affect our business, financial condition and operating results.

Achieving the expected benefits of the Hi-Crush Transaction requires, among other things, realization of the targeted synergies expected from the Hi-Crush Transaction, and there can be no assurance that we will be able to successfully integrate Hi-Crush's assets or otherwise realize the expected benefits of the Hi-Crush Transaction. The anticipated benefits of the Hi-Crush Transaction may not be realized fully or at all, or may take longer to realize than expected. Difficulties in integrating Hi-Crush's assets and operations may result in our inability to perform as expected, in operational challenges or in failure to realize anticipated efficiencies. Potential difficulties in realizing the anticipated benefits of the Hi-Crush Transaction include:

- disruptions of relationships with customers, distributors, suppliers, vendors, and other business partners as a result of uncertainty associated with the Hi-Crush Transaction;
- difficulties integrating Hi-Crush's operations with our own in a manner that permits us to achieve the full revenue and cost savings anticipated from the transaction;
- complexities associated with managing a larger and more complex business, including difficulty addressing possible inconsistencies in standards, controls or operational philosophies and the challenge of integrating complex systems, technology, networks and other assets of each of the companies in a seamless manner that minimizes any adverse impact on customers, suppliers, employees and other constituencies;
- difficulties realizing anticipated synergies;
- difficulties integrating personnel, vendors and business partners;
- loss of key employees who are critical to our future operations due to uncertainty about their roles within the Company following the Hi-Crush Transaction or other concerns regarding the Hi-Crush Transaction;

- potential unknown liabilities and unforeseen expenses;
- performance shortfalls at one or more of the companies as a result of the diversion of management’s attention to integration efforts; and
- disruption of, or the loss of momentum in, each company’s ongoing business.

We have also incurred, and expect to continue to incur, a number of costs associated with completing the Hi-Crush Transaction and integrating the operations of Hi-Crush into our business. The elimination of duplicative costs, as well as the realization of other efficiencies related to the integration of the two companies, may not initially offset integration-related costs or achieve a net benefit in the near term, or at all. Matters relating to the Hi-Crush Transaction (including integration planning) require substantial commitments of time and resources by our management, which may result in the distraction of management from ongoing business operations and pursuing other opportunities that could have been beneficial to us.

Our future success will depend, in part, on our ability to manage our expanded business by, among other things, integrating the assets, operations and personnel of Atlas and Hi-Crush in an efficient and timely manner, consolidating systems and management controls and successfully integrating relationships with customers, vendors and business partners. Failure to successfully manage the combined operations may have an adverse effect on our business, reputation, financial condition and results of operations.

We may be the target of securities class action and derivative lawsuits, which could result in substantial costs and may prevent or delay the consummation of the Hi-Crush Transaction or result in the payment of damages following completion of the Hi-Crush Transaction.

Securities class action lawsuits or derivative lawsuits are often brought against public companies that have entered into merger agreements. Even if the lawsuits are without merit, defending against such claims can result in substantial costs and divert management time and resources. An adverse ruling in any such lawsuit could result in monetary damages, which could have a negative impact on our liquidity and financial condition. Additionally, if a plaintiff is successful in obtaining an injunction prohibiting completion of the Hi-Crush Transaction, then that injunction may delay or prevent the Hi-Crush Transaction from being completed, which could adversely affect our business, financial condition, results of operations and cash flows.

Our stockholders as of immediately prior to the Hi-Crush Transaction will have diluted ownership in our Company.

We anticipate issuing approximately 9.7 million shares of the Company’s Common Stock to Hi-Crush equity owners, pursuant to the Merger Agreement. The issuance of these new shares could have the effect of depressing the market price of our Common Stock, through dilution of earnings per share or otherwise. Any dilution of, or delay of any accretion to, our earnings per share could cause the price of our Common Stock to decline or increase at a reduced rate.

Following the completion of the Hi-Crush Transaction, it is anticipated that persons who were stockholders of Atlas immediately prior to the Hi-Crush Transaction will own approximately 91.2% of the outstanding Common Stock following the issuance of 9.7 million shares of Common Stock to the Hi-Crush equity owners in connection with the consummation of the Hi-Crush Transaction. As a result, our current stockholders will have less influence on the policies of Atlas after the closing of the Hi-Crush Transaction than they currently have on our policies.

We will incur significant transaction and merger-related costs in connection with the Hi-Crush Transaction.

We have incurred and expect to incur a number of non-recurring costs associated with the Hi-Crush Transaction. These costs and expenses include fees paid to financial, legal and accounting advisors, potential employment-related costs, filing fees, printing expenses and other related charges. Some of these costs are payable by us regardless of whether the Hi-Crush Transaction is completed. There are also a large number of processes, policies, procedures, operations, technologies and systems that may or must be integrated in connection with the Hi-Crush Transaction and the integration of operations with ours. While we have assumed that a certain level of expenses would be incurred in connection with the Hi-Crush Transaction and the other transactions contemplated by the Merger Agreement, there are many factors beyond our control that could affect the total amount or the timing of the integration and implementation expenses.

There may also be additional unanticipated significant costs in connection with the Hi-Crush Transaction that we may not recoup. These costs and expenses could reduce the realization of efficiencies, strategic benefits and additional income we expect to achieve from the Hi-Crush Transaction. Although we expect that these benefits will offset the transaction expenses and implementation costs over time, this net benefit may not be achieved in the near term or at all.

General Risk Factors

Pandemics, epidemics or disease outbreaks, such as the COVID-19 pandemic, may disrupt our business and operations, which could materially affect our financial condition, results of operations and forward-looking expectations.

Public health crises, pandemics and epidemics, such as the COVID-19 pandemic, may adversely impact our operations, the operations of our customers and the global economy, including the worldwide demand for oil and natural gas and the level of demand for our products and services. Fear of such events has previously altered the level of capital spending by oil and natural gas companies for E&P activities and has adversely affected global economies and financial markets, resulting in economic downturns that have affected demand for our products and services. For instance, the outbreak of COVID-19 caused governmental authorities to impose mandatory closures, seek voluntary closures and impose restrictions on, or advisories with respect to, travel, business operations and public gatherings or interactions. The impact of future health crises, pandemics and epidemics and responsive measures could adversely affect our business in a number of ways, any of which could have a material adverse effect on us.

If securities or industry analysts do not publish research or reports or publish unfavorable research about us, the price and trading volume of our Common Stock could decline.

The trading market for our Common Stock depends in part on the research and reports that securities or industry analysts publish about us and our business. If one or more of the analysts who covers us downgrades our securities, the price of our securities would likely decline. If one or more of these analysts ceases to cover us or fails to publish regular reports on us, interest in the purchase of our securities could decrease, which could cause the price of our Common Stock and other securities and their trading volume to decline.

If we fail to develop or 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 develop and maintain our internal controls will be successful, that we will be able to maintain adequate controls over our financial processes and reporting in the future or that we will be able to comply with our obligations under Section 404 of the Sarbanes-Oxley Act. Any failure to develop or maintain effective internal controls, or difficulties encountered in implementing or improving internal controls, could harm the Company's operating results or cause us to fail to meet our reporting obligations. Ineffective internal controls could also cause investors to lose confidence in reported financial information, which would likely have a negative effect on the trading price of our Common Stock.

Our business and operations could suffer in the event of cybersecurity breaches, information technology system failures, network disruptions or other cyber security risks. A cyber incident could occur and result in information theft, data corruption, operational disruption and/or financial loss.

We rely on the efficient and uninterrupted operation of both our Company and third-party information technology systems and infrastructure to process transactions, summarize our operating results, deliver our products, perform many of our services and manage our business and operations. In the ordinary course of our business, we collect and store sensitive data, including our proprietary business information and personally identifiable information of our employees. The secure collection, processing, maintenance, storage, and transmission of information is critical to our operations. We have implemented procedural safeguards and stringent access controls designed to protect our information technology systems and data. Furthermore, we have sophisticated tools and third-party vendors monitoring our networks, email, cloud, and operational technology 24/7 against emerging cyber threats and vulnerabilities. However, our information technology systems and networks, and those of our customers, vendors, suppliers and other business partners, are subject to damage or interruption from power outages, computer and telecommunications failures, computer viruses, cyberattack or other security breaches, catastrophic events, such as fires, floods, earthquakes, tornadoes, hurricanes, acts of war or terrorism, usage errors by our employees and other events unforeseen or generally beyond our control. If our information technology systems are damaged or cease to function properly, we may need to make a significant investment to fix or replace them, and we may suffer loss of critical data, damage to our reputation and financial condition and interruptions or delays in our operations.

We have been the target of cyberattacks, and while to date none of these incidents has had a material impact on us, we expect to continue to be targeted in the future. Our risk and exposure to these matters remains heightened because of, among other things, the evolving nature of these threats, the current global economic and political environment, the outsourcing of some of our business operations, the ongoing shortage of qualified cybersecurity professionals and the interconnectivity and interdependence of third parties to our systems.

As cyber incidents continue to evolve, we will likely 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. In addition, any technology required by any mandate by authorities requiring the transition to remote work increases our vulnerability to cybersecurity threats, including threats to gain unauthorized access to sensitive information or to render data or systems unusable. Any material disruption in our information technology systems or systems that affect our business operations, delays or difficulties in implementing or integrating new systems or enhancing current systems, or any vulnerabilities rendering data or systems unusable following any mandated remote work situations, could have an adverse effect on our business and results of operations.

We monitor our information technology systems in an effort to detect cyberattacks, security breaches and unauthorized access. Our preventative and detective measures include penetration tests on externally facing systems, threat assessments, cybersecurity audits and expert consultations. However, the measures we employ to detect and prevent cyberattacks may be insufficient to protect us from an incident or to minimize the magnitude and effects of such incident for a significant period of time. Despite our security measures, the occurrence of a cyberattack, breach, unauthorized access, misuse, computer virus or other cybersecurity event could jeopardize our systems, interrupt our operations or result in the unauthorized disclosure, gathering, monitoring, misuse, corruption, loss or destruction of confidential and other information that belongs to us, our customers, our counterparties or third-party service providers that is processed and stored in, and transmitted through, our information technology systems and networks. Any such event could result in significant losses, loss of customers and business opportunities, breaches of our contractual obligations, reputational damage, litigation, regulatory fines, penalties or intervention, reimbursement or other compensatory costs, or otherwise adversely affect our business, financial condition or results of operations. Moreover, the constantly evolving global regulatory landscape surrounding data privacy and cybersecurity poses compliance challenges, and complying with such data protection obligations may be expensive. Any failure, whether real or perceived, by us to comply with applicable data privacy and protection obligations could result in significant losses, loss of customers and business opportunities, breaches of our contractual obligations, reputational damage, litigation, regulatory fines, penalties or intervention, reimbursement or other compensatory costs, or otherwise adversely affect our business, financial condition or results of operations.

A terrorist attack or armed conflict could harm our business.

Global and domestic terrorist activities, anti-terrorist efforts and other armed conflicts involving the United States could adversely affect the U.S. and global economies and could prevent us from meeting financial and other obligations. We could experience loss of business, delays or defaults in payments from payors or disruptions of fuel supplies and markets if pipelines, production facilities, processing plants, refineries or transportation facilities are direct targets or indirect casualties of an act of terror or war. Such activities could reduce the overall demand for oil and natural gas, which, in turn, could also reduce the demand for our proppant. Global and domestic terrorist activities and the threat of potential terrorist activities and any resulting physical damage and economic downturn could adversely affect our results of operations, impair our ability to raise capital or otherwise adversely impact our ability to realize certain business strategies.

Item 1B. Unresolved Staff Comments.

None.

Item 1C. Cybersecurity.**Risk Management and Strategy**

We recognize the critical importance of developing, implementing, and maintaining proactive cybersecurity measures to safeguard our information systems and protect the confidentiality, integrity, and availability of our data. To that end, we engage in the following cybersecurity risk management principles:

Material Risks & Integrated Overall Risk Management

We have strategically integrated cybersecurity risk management into our broader risk management framework to promote a Company-wide culture of cybersecurity risk management. This integration ensures that cybersecurity considerations are an integral part of our decision-making processes at every level. The security function housed within our Information Technology department continuously evaluates and addresses cybersecurity risks in alignment with our business objectives and operational needs and in cooperation with our broader risk management team.

Third-Party Risk Management Advisors

Recognizing the complexity and the evolving nature of cybersecurity threats, we engage with a range of external experts, including cybersecurity assessors, consultants, and auditors in evaluating and testing our cybersecurity program and practices. This ecosystem enables us to leverage specialized knowledge and insights, ensuring our cybersecurity program and practices remain attuned to our Company's particular needs and vulnerabilities. Our collaboration with these third-parties includes penetration tests on externally facings systems, threat assessments and subject matter expertise consultation on risk remediation and security enhancements.

Vendor Risk Oversight

Given the risks associated with using third-party service providers, we have developed stringent practices to oversee and manage these risks. We start the assessment right from the vendor onboarding stage, by conducting security and background assessments of vendors prior to their engagement, and we monitor ongoing relationships to ensure compliance with our cybersecurity standards. This practice is designed to mitigate risks related to data breaches or other security incidents originating from third-parties.

Risks from Cybersecurity Threats

To date, we have not yet experienced any cybersecurity threats or incidents that have materially affected or are reasonably likely to materially affect our business, financial condition or results of operations.

Governance

The Board is acutely aware of the critical nature of managing risks associated with cybersecurity threats given the significance of these threats to our operational integrity and stakeholder confidence. As such, the Board engages with our management team for periodic updates on our cybersecurity risk program and progress on remediation efforts.

Board Oversight

The Audit Committee is central to the Board's oversight of cybersecurity risks and bears the primary responsibility for this domain. The Audit Committee is composed of board members with depth of experience in enterprise risk management, compliance, corporate governance, technology, finance, and the unique characteristics and vulnerabilities of the oil and gas industry, equipping them to oversee cybersecurity risks effectively.

Management's Risk Management Role

Our Chief Financial Officer and our VP of Technology play a pivotal role in informing the Audit Committee on cybersecurity risks. They provide briefings to the Audit Committee encompassing a broad range of topics, including:

- the current cybersecurity landscape and emerging threats;
- the status of ongoing cybersecurity initiatives and progress on remediation efforts; and
- compliance with regulatory requirements and industry standards.

Cybersecurity Risk Management Personnel

Our VP of Technology, Shaam Farooq, has primary responsibility for assessing, monitoring, and managing our cybersecurity risks. Mr. Farooq has over 25 years of global technology leadership experience in the oil and gas, technology, manufacturing, and automotive industries. Mr. Farooq has led the technology functions and overseen the cybersecurity and digital transformation of startups and Fortune 100 companies alike and brings deep domain expertise and hands on experience to his role. His background includes extensive experience as an enterprise CISO and is an active participant in the oil and gas cybersecurity community, keeping abreast of late breaking threats and remediations. Shaam continues to refresh his Certified Information Systems Security Professional and Certified Information Security Manager trainings as schedule permits.

Cybersecurity Incident Monitoring

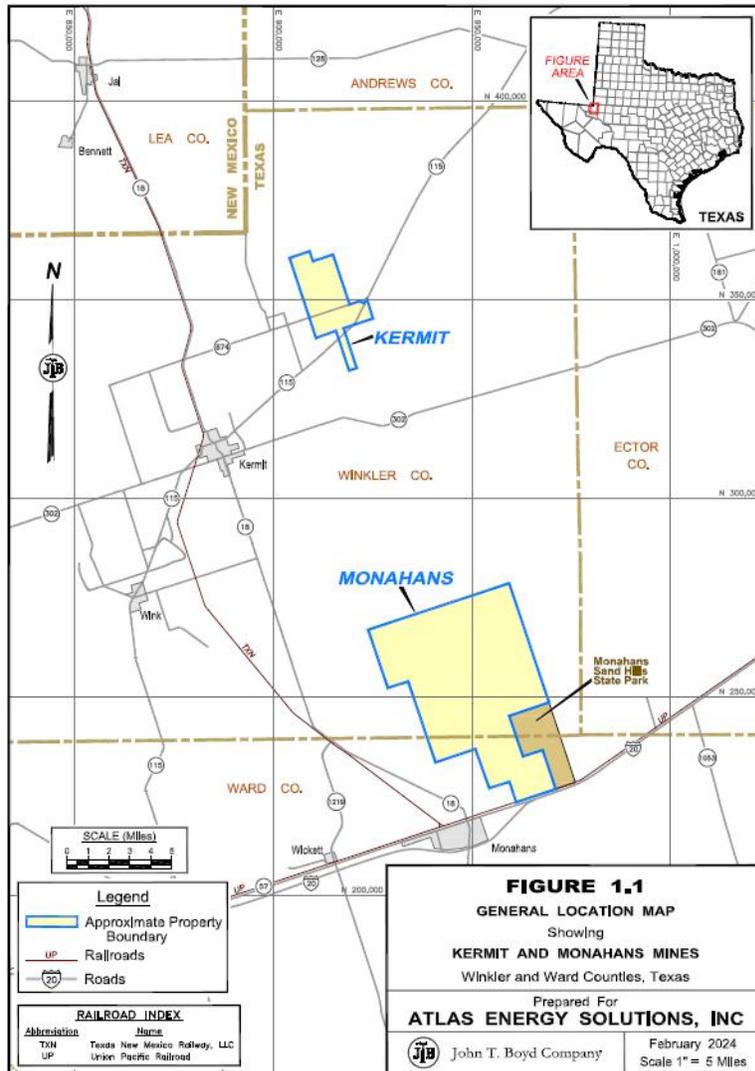
The VP of Technology is continually informed about the latest developments in cybersecurity, including potential threats and innovative risk management techniques. This ongoing knowledge acquisition is crucial for the effective prevention, detection, mitigation, and remediation of cybersecurity incidents. The VP of Technology has implemented industry tools and oversees the processes for the regular monitoring of our information systems. This includes the deployment of advanced security measures and regular system audits to identify potential vulnerabilities. In the event of a cybersecurity incident, the VP of Technology is equipped with a well-defined incident response plan (IRP) which is continuously enhanced. This plan includes immediate actions to mitigate the impact and long-term strategies for remediation and prevention of future incidents.

Reporting to Board

The VP of Technology, in his capacity, regularly informs the Executive Chairman and Chief Executive Officer and President and Chief Financial Officer of all aspects related to cybersecurity risks and incidents. This ensures that the highest levels of management are kept abreast of the cybersecurity posture and potential risks facing the Company. In addition to regular briefings, any significant cybersecurity matters and strategic risk management decisions would be escalated to the Board, ensuring that they have comprehensive oversight and can provide guidance on critical cybersecurity issues.

Item 2. Properties.

We currently operate our Kermit and Monahans facilities in Winkler and Ward Counties, Texas. For the years ended December 31, 2023, 2022 and 2021, our facilities produced, in aggregate, approximately 11.0, 10.2 and 8.3 million tons of proppant, respectively. The following map shows the location of these facilities:



Kermit, Texas

As of December 31, 2023, our two Kermit mines had a combined annual production capacity of 11 million tons and are located on 5,826 gross acres of land (of which 5,341 net acres are controlled by us either through lease or fee ownership) in Winkler County, Texas, with onsite processing and truck loading facilities. We commenced construction of our first Kermit mine in October of 2017, and commenced operations in June 2018. We commenced construction of our second Kermit mine in July of 2022, which we completed in December 2023. Our Kermit facilities have a net book value of \$386.1 million. Geographically, our Kermit facilities are located at approximately 31° 58' 6.29" N latitude and 103° 0' 39.46" W longitude, are situated approximately seven miles northeast of Kermit, Texas, and are accessible via Texas State Highway 18. The Midland International Air and Space Port is located approximately 45 miles southeast of the facilities. The facilities' primary utilities include three phase power, natural gas from an interstate transmission line and groundwater from onsite wells, all of which are present in sufficient quantities to sustainably support facilities producing 11 million tons annually. The facilities were designed with redundancies to provide enhanced reliability and minimize the potential for bottlenecks throughout the processing and loadout operation. Our plants were designed modularly to accommodate efficient expansion—maximizing the increase in production capacity while minimally increasing the facilities' footprints.

The Kermit facilities have 300.7 million tons of associated proven reserves as of December 31, 2023. The sand deposits generally range from 60 to over 100 feet thick and consist of 40/70-mesh and 100-mesh sand, with an anticipated production mix of approximately 51% 40/70-mesh and approximately 49% 100-mesh. The crush strength of the sand mined at these facilities is between 7,000 to 8,000 pounds-per-square-inch ("PSI") for 40/70-mesh and between 10,000 to 11,000 PSI for 100-mesh. Given the open-dune reserves and natural aquifer, sand is generally extracted from the mine through surface excavation through mining by electric dredge. The Kermit facilities have onsite transportation infrastructure capable of loading more than 35 trucks per hour.

In December 2017, we entered into a royalty agreement with Sealy Smith. The royalty agreement associated with the Kermit location terminated on the date of our IPO, pursuant to the terms of the agreement. We have received the material permits required to operate our Kermit facilities from the Air Permits Division of the TCEQ, Winkler County, the MSHA and TxDOT. Please see "*Our Permits*" for more information.

Monahans, Texas

As of December 31, 2023, our Monahans mine had annual production capacity of 5.5 million tons and is located on approximately 32,224 gross acres of land in Ward County, Texas, with onsite processing and truck loading facilities. We commenced construction of our Monahans mine in February of 2018 and commenced operations in October 2018. Our Monahans facility has a net book value of \$228.8 million. Geographically, our Monahans facility is located at approximately 31° 39' 32.53" N latitude and 102° 52' 55.46" W longitude, is situated approximately three miles northeast of Monahans, Texas, and is accessible via Texas State Highway 115 and Interstate 20. The Midland International Air and Space Port is located approximately 40 miles east of the facility. The facility's primary utilities include three phase power from natural gas from an interstate transmission line and groundwater from onsite wells, all of which are present in sufficient quantities to sustainably support a facility producing in excess of 5.5 million tons annually. The facility was designed with redundancies to provide enhanced reliability and minimize the potential for bottlenecks throughout the processing and loadout operation.

The Monahans facility has 148.3 million tons of associated proven reserves as of December 31, 2023. The sand deposits generally range from 60 to over 100 feet thick and consist of 40/70-mesh and 100-mesh sand, with an anticipated production mix of approximately 61% 40/70-mesh and approximately 39% 100-mesh. The crush strength of the sand mined at the facility is 7,000 to 8,000 PSI for 40/70-mesh and between 10,000 to 11,000 PSI for 100-mesh. Given the open-dune reserves and natural aquifer, sand is generally extracted from the mine through surface excavation through mining by electric dredge. Like the Kermit facilities, the Monahans facility was constructed with a modular design that facilitates future expansion opportunities. The Monahans facility has onsite transportation infrastructure capable of loading more than 35 trucks per hour.

The rights and access to the mineral reserves associated with our Monahans operations are secured under a lease agreement (the "Monahans Lease") with Sealy Smith. Under the Monahans Lease, we are committed to pay royalties on product sold from that facility and are required to pay a minimum royalty of \$1.0 million for any lease year following our IPO. We have received the material permits required to operate our Monahans facility from the TCEQ Air Permits Division, Ward County, MSHA and TxDOT. Please see "*Our Permits*" for more information.

Our Reserves

Information concerning our material mining properties in this Annual Report has been prepared in accordance with the requirements of Subpart 1300 of Regulation S-K, which first became applicable to us for the fiscal year ended December 31, 2023. As used in this Annual Report, the terms "mineral resource," "mineral reserve," "proven mineral reserve" and "probable mineral reserve" are defined and used in accordance with Subpart 1300 of Regulation S-K.

We categorize our mineral reserves as proven or probable based on the standards set by our independent mining engineers and geologists, John T. Boyd Company. We estimate that we had a total of approximately 488.0 million tons of proven and probable mineral reserves as of December 31, 2023. As of December 31, 2023, we had approximately 300.7 million tons of proven mineral reserves and 36.9 million tons of probable recoverable mineral reserves associated with our Kermit facilities and approximately 148.3 million tons of proven mineral reserves and 2.2 million tons of probable recoverable mineral reserves associated with our Monahans facility. The quantity and nature of the mineral reserves at each of our properties are estimated by our internal geology department. We use drone surveys and three-dimensional models to regularly update our reserve estimates, making necessary adjustments for operations and mine plans at each location during the year.

Our internal reserve estimates are provided to John T. Boyd Company for review annually so that third-party approved additions or reductions can be made to our mineral reserves and mineral resource calculations due to ore extraction, additional drilling and delineation, property acquisitions and dispositions or quality adjustments. Before acquiring new mineral reserves, we perform surveying, drill core analysis and other tests to confirm the quantity and quality of the acquired mineral reserves. John T. Boyd Company reviewed our mineral reserves and mineral resources as of December 31, 2023. John T. Boyd is not affiliated with the Company nor any other entity that has an ownership, royalty, or other interest in the properties that are the subject of the technical report summaries.

We lease a portion of the mineral reserves associated with our Kermit facilities and all of the mineral reserves associated with our Monahans facilities. As of December 31, 2023, we owned approximately 44% of our mineral reserves and leased approximately 56% of our mineral reserves from third-party landowners at our Kermit facilities. To opine as to the economic viability of our mineral reserves, John T. Boyd Company reviewed our operating cost and revenue per ton data at the time of the proven reserve determination. The sand deposits at our facilities do not require crushing or extensive processing to eliminate clays or other contaminants, enabling us to cost-effectively produce high-quality proppant meeting API specifications.

Summary of Reserves

The following tables provide the tonnage and mesh size characteristics of the proven and probable mineral reserves associated with our Kermit and Monahans facilities as of December 31, 2023, based on \$30.00 per ton. Since the commissioning of our wet plants in 2018 through the end of 2023, the actual process yield for both plants is approximately 90%. In general, for every 100 tons of run-of-mine (“ROM”) material fed into the plant, 90 tons of saleable product is produced. It should be noted that these achieved process yields are slightly different than the overall process yields used to estimate the frac sand resources and reserves, which are based on the results of drill hole sample testing at each property.

Kermit Facilities

Tons by Classification and Mesh Size (in thousands)

Control	Proven			Probable			By Mesh Size		
	40/70	70/140	Total	40/70	70/140	Total	40/70	70/140	Total
Owned	81,869	67,718	149,587	254	317	571	82,123	68,035	150,158
Leased	70,709	80,410	151,119	16,215	20,066	36,281	86,924	100,476	187,400
Total	152,578	148,128	300,706	16,469	20,383	36,852	169,047	168,511	337,558

Monahans Facility

Tons by Classification and Mesh Size (in thousands)

Control	Proven			Probable			By Mesh Size		
	40/70	70/140	Total	40/70	70/140	Total	40/70	70/140	Total
Leased	90,294	58,000	148,294	1,372	819	2,191	91,666	58,819	150,485

Combined Kermit and Monahans Facilities

The following table provides the tonnage and mesh size characteristics of the proven and probable mineral reserves associated with our Kermit and Monahans operations as of December 31, 2023, based on \$30.00 per ton, presented on a combined basis.

Tons by Classification and Mesh Size (in thousands)

Facilities	Proven			Probable			By Mesh Size		
	40/70	70/140	Total	40/70	70/140	Total	40/70	70/140	Total
Kermit	152,578	148,128	300,706	16,469	20,383	36,852	169,047	168,511	337,558
Monahans	90,294	58,000	148,294	1,372	819	2,191	91,666	58,819	150,485
Total	242,872	206,128	449,000	17,841	21,202	39,043	260,713	227,330	488,043

Drilling density utilized by us to determine proven versus probable mineral reserves is based upon the relative characteristics of the mineral resource field evaluated, including the consistency and density of the mineral resource within the drilling core sample. The target drill-hole spacing utilized by John T. Boyd Company to estimate our proven and probable mineral reserves are as follows:

- Proven—less than or equal to 1,500 feet
- Probable—less than or equal to 2,500 feet

Material Assumptions

Estimates of frac sand reserves for our Kermit and Monahans operations were derived contemporaneously with estimates of frac sand resources for each property. To derive an estimate of saleable product tons (proven and probable frac sand reserves), the following modifying factors were applied to the in-place measured and indicated frac sand resources underlying the respective mine plan areas of each operation:

- A 95% mining recovery factor which assumes that 5% of the mineable (in-place) frac sand resource will not be recovered for various reasons. Applying this recovery factor to the in-place resource results in the estimated ROM sand tonnage that will be delivered to the wet process plant.
- Processing recoveries, based on exploration sample gradation testing, are 85% for the Kermit mines, and 88% for the Monahans mine. These recovery factors account for removal of out-sized (i.e., larger than 40-mesh and smaller than 140-mesh) sand and losses in the wet processing plant, and minor dry processing plant inefficiencies.

Further information can be found in Section 6.3.1 of our technical report summary prepared by John T. Boyd Company, which is filed as Exhibit 96.3 to this Annual Report.

Our Resources

A “mineral resource” is defined by Subpart 1300 of Regulation S-K as a concentration or occurrence of material of economic interest in or on the Earth’s crust in such form, grade or quality, and quantity that there are reasonable prospects for economic extraction. Further, mineral resource is a reasonable estimate of mineralization, taking into account relevant factors such as cut-off grade, likely mining dimensions, location or continuity, that, with the assumed and justifiable technical and economic conditions, is likely to, in whole or in part, become economically extractable. Subpart 1300 of Regulation S-K divides resources between “measured mineral resources” and “indicated mineral resources” and “inferred mineral resources,” which are defined as follows:

- Measured mineral resources. Resources for which quantity and grade or quality are estimated on the basis of conclusive geological evidence and sampling. The level of geological certainty associated with a measured mineral resource is sufficient to allow a qualified person to apply modifying factors, as defined in this section, in sufficient detail to support detailed mine planning and final evaluation of the economic viability of the deposit. Because a measured mineral resource has a higher level of confidence than the level of confidence of either an indicated mineral resource or an inferred mineral resource, a measured mineral resource may be converted to a proven mineral reserve or to a probable mineral reserve.
- Indicated mineral resources. Resources for which quantity and grade or quality are estimated on the basis of adequate geological evidence and sampling. The level of geological certainty associated with an indicated mineral resource is sufficient to allow a qualified person to apply modifying factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Because an indicated mineral resource has a lower level of confidence than the level of confidence of a measured mineral resource, an indicated mineral resource may only be converted to a probable mineral reserve.
- Inferred mineral resources. Resources for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. The level of geological uncertainty associated with an inferred mineral resource is too high to apply relevant technical and economic factors likely to influence the prospects of economic extraction in a manner useful for evaluation of economic viability. Because an inferred mineral resource has the lowest level of geological confidence of all mineral resources, which prevents the application of the modifying factors in a manner useful for evaluation of economic viability, an inferred mineral resource may not be considered when assessing the economic viability of a mining project, and may not be converted to a mineral reserve.

The target drill-hole spacing utilized by John T. Boyd Company to estimate our measured, indicated and inferred resources are as follows:

- Measured – less than or equal to 1,500 feet
- Indicated – greater than 1,500 feet, but less than or equal to 2,500 feet
- Inferred – greater than 2,500 feet, but less than or equal to 5,000 feet

The following tables set forth the mineral resource estimates, exclusive of mineral reserves, associated with our Kermit and Monahans facilities as of December 31, 2023, based on \$30.00 per ton. Since the commissioning of our wet plants in 2018 through the end of 2023, the actual process yield for both plants is approximately 90%. In general, for every 100 tons of ROM material fed into the plant, 90 tons of saleable product is produced. It should be noted that these achieved process yields are slightly different than the overall process yields used to estimate the frac sand resources and reserves, which are based on the results of drill hole sample testing at each property.

Kermit Facilities

Resource Category	Acres	Average Sand Thickness (ft)	Estimated In-Place Frac Sand Tons (in thousands)		
			Owned	Leased	Total
Measured	165		2,750	16,636	19,386
Indicated	460		563	75,515	76,078
Measured + Indicated	625		3,313	92,151	95,464
Inferred	800		—	75,076	75,076
Total	1,425	74	3,313	167,227	170,540

Monahans Facility

Resource Category	Acres	Average Sand Thickness (ft)	Estimated In-Place Frac Sand Tons (in thousands)		
			Owned	Leased	Total
Measured	487		—	71,730	71,730
Indicated	785		—	102,755	102,755
Measured + Indicated	1,272		—	174,485	174,485
Inferred	8,908		—	1,094,030	1,094,030
Total	10,180	57	—	1,268,515	1,268,515

As of December 31, 2023, our mineral resources are estimated at 1.439 billion tons (170.5 million tons at the Kermit facilities and 1.269 billion tons at the Monahans facility). As of December 31, 2023, we leased a portion of the resources associated with our Kermit facilities and all of the resources associated with our Monahans facility.

Material Assumptions

Estimates of in-place frac sand resources for the Kermit and Monahans operations were prepared by performing the following tasks:

- Available drilling logs and laboratory testing results were compiled and reviewed to check for accuracy and to support development of each operation's geologic model. The geologic databases utilized for modeling and estimation consist of results from 87 drill holes completed on the Kermit property, and 80 drill holes completed on the Monahans property, as is discussed in Chapter 5. The geologic data were imported into Carlson Software, a geologic modeling and mine planning software suite that is widely used and accepted by the mining industry.
- A geologic model of each deposit was created in Carlson Software using industry standard grid modeling methods well-suited for simple stratigraphic deposits. Each geologic model delineates the top and bottom of the mineable sand horizon and the distribution of the product size fractions across the deposits. The top and bottom of the mineable frac sand interval were established as follow:
 - As there is minimal overburden material across the subject properties, the top of the mineable sand interval was defined as the current ground surface, as provided by a combination of originally flown aerial topographic surveys and recently surveyed active mining pits.
 - The bottom of the mineable sand interval on both Atlas properties was determined by Westward geologists and geological technicians present during the various exploration and sampling campaigns. Westward defined the bottom of the mineable sand interval as the depth at which a drilled interval no longer contained sand as either the first or second most abundant material present.
 - After reviewing the continuity and variability of the deposit, suitable resource classification criteria were developed and applied.
- Estimation of the in-place frac sand resources for the Kermit and Monahans properties assumes mining operations will utilize a combination of standard surface excavation equipment for the near-surface initial operations (dry mining) and

dredging equipment once initial excavation has reached into the water table. This sequence of operating is widely utilized for mining of similar deposit types. As such, the estimates were subject to the following setbacks and slope requirements:

- 50 ft inside of property lines.
- 100 ft from pipelines.
- 50 ft around the wet and dry process plant areas and main access road/right of way.
- An overall pit wall slope of 3:1 (approximately 19 degrees).

•In-place volumes for each property were estimated from the geologic model within Carlson Software. A dry, in-place, bulk density of 100 pounds per cubic foot was used to calculate the in-place tonnage of frac sand.

Further information can be found in Section 6.2.1 of our technical report summary prepared by John T. Boyd Company, which is filed as Exhibit 96.3 to this Annual Report.

Comparisons

Kermit Facilities

<u>Summary of Reserves (in thousands)</u>				
	December 31, 2023	December 31, 2022	Amount Change 2023 vs. 2022	Percentage Change 2023 vs. 2022
	Amount	Amount		
Proven	300,706	188,000	112,706	60%
Probable	36,852	4,831	32,021	663%
Total	337,558	192,831	144,727	75%

<u>Summary of Resources (in thousands)</u>				
	December 31, 2023	December 31, 2022	Amount Change 2023 vs. 2022	Percentage Change 2023 vs. 2022
	Amount	Amount		
Measured	19,386	9,700	9,686	100%
Indicated	76,078	95,390	(19,312)	-20%
Inferred	75,076	293,290	(218,214)	-74%
Total	170,540	398,380	(227,840)	-57%

When comparing the Kermit mines' estimated frac sand reserves as of December 31, 2023, with those reported as of December 31, 2022, we note a net increase. This increase is a direct result of converting a significant portion of the operations' frac sand resources to frac sand reserves in order to support the expanded operational capacity of the Kermit mines. Depletion through ordinary mining operations and inventory sales was also considered and, when combined with the added reserves, resulted in a net increase of approximately 144.7 million tons of additional frac sand reserves at the Kermit mines.

Monahans Facility

<u>Summary of Reserves (in thousands)</u>				
	December 31, 2023	December 31, 2022	Amount Change 2023 vs. 2022	Percentage Change 2023 vs. 2022
	Amount	Amount		
Proven	148,294	113,507	34,787	31%
Probable	2,191	51,098	(48,907)	-96%
Total	150,485	164,605	(14,120)	-9%

<u>Summary of Resources (in thousands)</u>				
	December 31, 2023	December 31, 2022	Amount Change 2023 vs. 2022	Percentage Change 2023 vs. 2022
	Amount	Amount		
Measured	71,730	64,144	7,586	12%
Indicated	102,755	108,726	(5,971)	-5%
Inferred	1,094,030	1,093,869	161	0%
Total	1,268,515	1,266,739	1,776	0%

When comparing the Monahans mine's estimated frac sand reserves as of December 31, 2023, with those reported as of December 31, 2022, we note a net decrease. This decrease is the result of depletion through ordinary mining operations and inventory sales, as well as minor reserve boundary reassessments. Together, these changes resulted in a net decrease of approximately 14.1 million tons in the frac sand reserves of the Monahans mine.

Further information can be found in Section 6.3.5 of our technical report summary prepared by John T. Boyd Company, which is filed as Exhibit 96.3 to this Annual Report.

Our Lease and Royalty Arrangements

We lease a portion of the mineral reserves associated with our Kermit operations and all of the mineral reserves associated with our Monahans operations. In December 2017, we entered into a royalty agreement with Sealy Smith in connection with certain leased property at the Kermit facilities. The royalty agreement associated with the Kermit facilities terminated on the date of our IPO, pursuant to the terms of the agreement. The rights and access to the mineral reserves associated with our Monahans operations are secured under the Monahans Lease with the Sealy Smith. Under the Monahans Lease, we are committed to pay royalties on product sold from that facility and are required to pay a minimum royalty of \$1.0 million for any lease year following our IPO. Our royalty payments are included in our cost of sales.

Subsequent to December 31, 2023, we entered into a pooling agreement with the General Land Office of Texas ("GLO") that establishes a pooled unit consisting of land we own in fee own and land we lease at the Kermit property. The pooling agreement has a current effective blended royalty rate of 5.83%. This pooling agreement increases our operational flexibility by establishing a framework to efficiently mine across our fee owned lands and leased lands interchangeably.

Our Permits

We have obtained numerous federal, state and local permits required for operations at our Kermit and Monahans facilities. The Kermit and Monahans operations are predominantly regulated by the TCEQ with respect to environmental compliance. The predominant permitting requirement is an active NSR permit for air pollution control. Both of our operations have a current NSR permit which is renewable next in 2028. Other permits held by our operations include Stormwater, Above Ground Storage Tank, Aggregate Production Operation, and a septic permit. A Spill Prevention, Control, and Countermeasure plan is also active at both locations.

While resources invested in securing permits are significant, this cost has not had a material adverse effect on our results of operations or financial condition. We cannot be certain that existing environmental laws and regulations will not be reinterpreted or revised or that new environmental laws and regulations will not be adopted or become applicable to us. Revised or additional environmental requirements that result in increased compliance costs or additional operating restrictions could have a material adverse effect on our business.

Item 3. Legal Proceedings.

From time to time we may be involved in litigation relating to claims arising out of our operations in the normal course of business. The disclosure called for by this Part I, Item 3 regarding our legal proceedings is incorporated by reference herein from Part II, Item 8. Note 8 - *Commitments and Contingencies* - Litigation of the notes to the consolidated financial statements in this Annual Report.

Item 4. Mine Safety Disclosures.

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 (17 C.F.R. Section 229.104) is included in Exhibit 95.1 to this Annual Report.

PART II

Item 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.

Market Information

Our Common Stock is listed on the New York Stock Exchange under the symbol "AESI."

Holders of Record

As of the close of business on February 21, 2024, there were 40 record holders of our Common Stock. A substantially greater number of holders of our Common Stock are “street name” or beneficial holders, whose shares of record are held by banks, brokers, and other financial institutions.

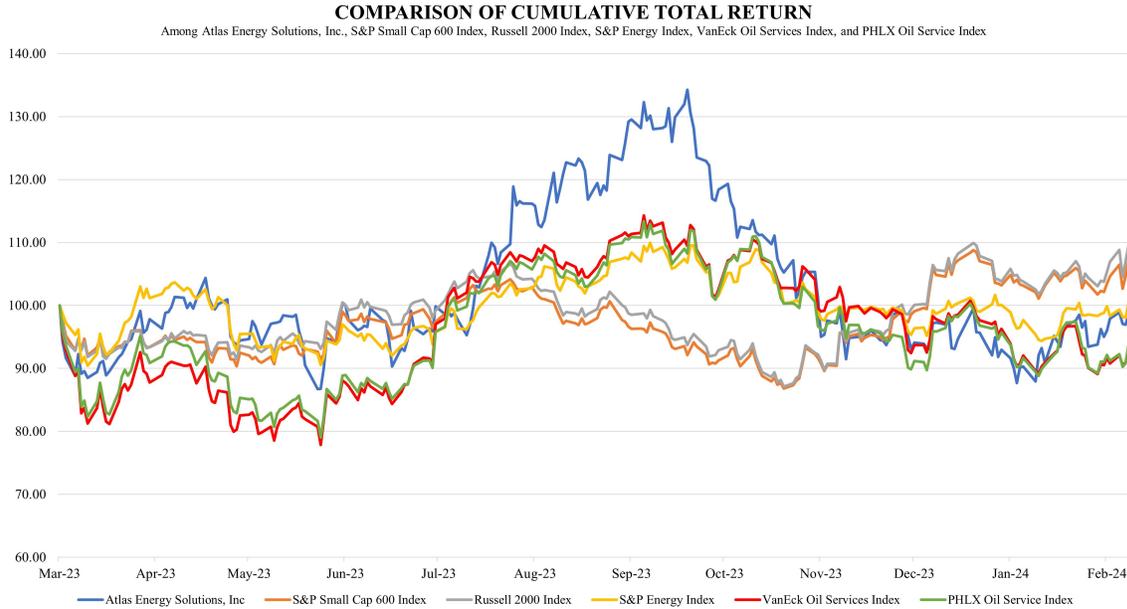
Dividend Practice

We commenced paying cash distributions in December 2021 and intend to continue to recommend to our Board that we regularly return capital to our stockholders in the future through a dividend framework that will be communicated to stockholders in the future. The declaration and payment of future dividends to holders of our Common Stock will be at the discretion of our Board and will depend upon many factors, including our financial condition, earnings, legal requirements, capital allocation strategy, restrictions in our debt agreements and other factors our Board deems relevant. Although we do not currently have plans to reduce or suspend our dividend, there is no assurance that we will pay any cash dividends on our Common Stock in the future.

Performance Graph

The information contained in this Performance Graph section shall not be deemed to be "soliciting material" or "filed" or incorporated by reference in future filings with the SEC, or subject to the liabilities of Section 18 of the Exchange Act, except to the extent that we specifically incorporate it by reference into a document filed under the Securities Act or the Exchange Act. The share price performance shown on the graph is not necessarily indicative of future price performance.

The graph below compares the cumulative total stockholder return on our Common Stock to the cumulative total return on the Russell 2000 index, VanEck Oil Services index, PHLX Oil Service index, Standard and Poor’s Energy index, and the Standard and Poor’s SmallCap 600 index, in each case assuming \$100 was invested on March 8, 2023. We elected to include the VanEck Oil Services index, PHLX Oil Service index, and Standard and Poor’s Energy index because a number of companies in these indexes are included in the custom peer group used to determine relative total stockholder return performance share units that we have granted to employees.



Use of Proceeds

On March 8, 2023, Old Atlas's Registration Statement on Form S-1, as amended (File No. 333-269488), relating to the Company's initial public offering of 18,000,000 shares of Old Atlas Class A Common Stock at a price to the public of \$18.00 per share, was declared effective by the SEC. The IPO was completed on March 13, 2023. Goldman Sachs & Co. LLC, BofA Securities, Inc. and Piper Sandler & Co. acted as lead book-running managers for the IPO. RBC Capital Markets, LLC, Barclays Capital Inc. and Citigroup Global Markets Inc. acted as book-running managers. Raymond James & Associates, Inc., Johnson Rice & Company LLC, Stephens Inc., Capital One Securities, Inc., PEP Advisory LLC and Drexel Hamilton, LLC acted as co-managers for the IPO. The IPO generated net proceeds of approximately \$291.2 million, after deducting \$20.6 million of underwriting discounts and commissions, \$5.9 million of current offering costs in 2023, and \$6.3 million in offering costs paid in 2022 that were recorded to other long-term assets on the consolidated balance sheets as of December 31, 2022.

Old Atlas contributed all of the net proceeds from the IPO to Atlas Operating in exchange for Operating Units, and Atlas Operating further contributed the net proceeds to Atlas LLC. No payments were made to our directors, officers or their associates, to holders of 10% or more of any class of our equity securities or to our affiliates in connection with the issuance and sale of the securities registered. Atlas LLC has used approximately \$183.7 million of the net proceeds from the IPO to fund construction of the Dune Express, and intends to use an additional approximately \$104.2 million of the net proceeds from the IPO for further construction of the Dune Express. As of December 31, 2023, the Company has retained approximately \$3.3 million of the net proceeds from the IPO to use for future general corporate purposes. No payments for any offering expenses were made directly or indirectly to (i) any of our officers or directors or their associates, (ii) any persons owning 10% or more of any class of our equity securities or (iii) any of our affiliates.

Item 6. [Reserved]

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

The following discussion and analysis of our financial condition and results of operations should be read together with Item 1, “Business,” and the Consolidated Financial Statements and the related notes in Item 8 of this Annual Report. For the purposes of this discussion, references to “Atlas Inc.” are to AESI Holdings Inc. (f/k/a Atlas Energy Solutions Inc.) for periods prior to the completion of the Up-C Simplification, and to Atlas Energy Solutions Inc. (f/k/a New Atlas HoldCo Inc.) for periods subsequent to the Up-C Simplification. References to the “Company,” “we,” “us,” “our” and like expressions are to Atlas Inc. together with its subsidiaries.

This discussion contains forward-looking statements as a result of many factors, including those set forth under the section titled “Cautionary Statement Regarding Forward-Looking Statements” and Item 1A. “Risk Factors,” and elsewhere in this Annual Report. These statements are based on current expectations and assumptions that are subject to risks and uncertainties. Actual results could differ materially from those discussed in or implied by forward-looking statements. Factors that could cause or contribute to these differences include those discussed below and elsewhere in this Annual Report, particularly in Item 1A. “Risk Factors.” We do not undertake any obligation to publicly update any forward-looking statements except as otherwise required by applicable law.

We use Adjusted EBITDA, Adjusted EBITDA Margin, Adjusted Free Cash Flow, Adjusted EBITDA less Capital Expenditures, Adjusted Free Cash Flow Margin, Adjusted EBITDA less Capital Expenditures Margin, Adjusted Free Cash Flow Conversion, Contribution Margin, Maintenance Capital Expenditures and Net Debt herein as non-GAAP measures of our financial performance. For further discussion of Contribution Margin, EBITDA, Adjusted EBITDA and Adjusted Free Cash Flow, see the section titled “Non-GAAP Financial Measures” in this Item 7 of this Annual Report. We define various terms to simplify the presentation of information in this Annual Report. All share amounts are presented in thousands.

Overview

We are a low-cost producer of high-quality, locally sourced 100 mesh and 40/70 sand used as a proppant during the well completion process. One hundred percent of Atlas LLC’s sand reserves are located in Winkler and Ward Counties, Texas, within the Permian Basin, and our operations consist of proppant production and processing facilities, including two facilities near Kermit, Texas and a third facility near Monahans, Texas. As of December 31, 2023, our Kermit and Monahans facilities have a total combined annual production capacity of 16.5 million tons.

We also operate a logistics platform that is designed to increase the efficiency, safety and sustainability of the oil and natural gas industry within the Permian Basin. This includes our fleet of fit-for-purpose trucks and trailers and will include the Dune Express, an overland conveyor infrastructure solution currently under construction.

Our Predecessor

The predecessor of Atlas Inc. consists of Atlas LLC and certain of its wholly-owned subsidiaries: Atlas Sand Employee Holding Company, LLC; Atlas Sand Employee Company, LLC; Atlas OLC Employee Company, LLC; Atlas Construction Employee Company, LLC; Fountainhead Logistics Employee Company, LLC; Atlas Sand Construction, LLC; OLC Kermit, LLC; OLC Monahans, LLC; and Fountainhead Logistics, LLC on a consolidated basis (all of which we refer to collectively as “Atlas Predecessor”). Historical periods for Atlas Predecessor are presented on a consolidated basis given the common control ownership. Unless otherwise indicated, the historical consolidated financial information included in this Annual Report presents the historical financial information of Atlas Predecessor. Historical consolidated financial information is not indicative of the results that may be expected in any future periods.

Recent Developments

Hi-Crush Acquisition

On February 26, 2024, Atlas entered into an Agreement and Plan of Merger (the “Merger Agreement”) with Hi-Crush, pursuant to which Atlas will acquire substantially all of Hi-Crush’s Permian Basin proppant production and North American logistics businesses and operations (the “Hi-Crush Transaction”).

Under the terms and conditions of the Merger Agreement, which has an economic effective time of 11:59 p.m. CT on February 29, 2024, the aggregate consideration to be paid to the Hi-Crush stockholders in the Hi-Crush Transaction will consist of (i) cash consideration of \$150 million at the closing of the Hi-Crush Transaction (the “Closing”), (ii) 9.7 million shares of Atlas’s Common Stock, par value \$0.01 per share, issued at Closing (the “Common Stock,” and such issuance, the “Stock Consideration”), and (iii) a secured PIK toggle seller note in an initial aggregate principal amount of \$125 million with a final maturity date of January 31, 2026 (the “Seller Note”), in each case, subject to customary closing adjustments. Upon consummation of the Hi-Crush Transaction, the Hi-Crush stockholders will collectively own approximately 8.8% of the Company’s outstanding Common Stock. Both the cash consideration and the original principal amount of the Seller Note are subject to revision for customary closing adjustments.

The Merger Agreement and the Hi-Crush Transaction have been unanimously approved by a Special Committee of the Atlas board of directors composed of a majority of independent directors, as well as the boards of directors of both companies. The completion of the Hi-Crush Transaction is subject to the satisfaction or waiver of customary closing conditions, including Hi-Crush's delivery of a written consent approving the Hi-Crush Transaction signed by Hi-Crush stockholders holding at least 95% of the voting power. The Hi-Crush Transaction is expected to close in the first quarter of 2024.

Corporate Developments

On March 13, 2023, Old Atlas completed its initial public offering of 18,000,000 shares of Old Atlas Class A Common Stock at a price of \$18.00 per share. The IPO generated \$324.0 million of gross proceeds and net proceeds of approximately \$291.2 million, after deducting underwriter discounts and commissions and estimated offering costs. In connection with the IPO, pursuant to a master reorganization agreement dated March 8, 2023, by and among Old Atlas, ASMC, Atlas LLC, Holdings, Atlas Operating, Holdings II, ASMC II, and Atlas Sand Merger Sub, LLC, a Delaware limited liability company, Old Atlas and the parties thereto completed certain restructuring transactions. As a result of these restructuring transactions, Atlas Operating became the wholly-owned operating subsidiary of Old Atlas, Atlas LLC became a wholly-owned subsidiary of Atlas Operating, and Atlas LLC continued to own all of the Company's operating assets.

On October 2, 2023, Old Atlas and the Company completed the Up-C Simplification as contemplated by the Master Reorganization Agreement in order to, among other things, reorganize under a new public holding company and eliminate Old Atlas's "up-C" and dual-class stock structure. Pursuant to the Master Reorganization Agreement, (a) PubCo Merger Sub merged with and into Old Atlas, as a result of which (i) each share of Old Atlas Class A Common Stock then issued and outstanding was exchanged for one share of Common Stock of the Company, (ii) all of the shares of Old Atlas Class B Common Stock then issued and outstanding were surrendered and cancelled for no consideration and (iii) Old Atlas survived the PubCo Merger as a direct, wholly-owned subsidiary of the Company; and (b) Opco Merger Sub merged with and into Atlas Operating, as a result of which (i) each Operating Unit then issued and outstanding, other than those Operating Units held by Old Atlas, was exchanged for one share of Common Stock of the Company and (ii) Atlas Operating became a wholly-owned subsidiary of the Company.

After completion of the Up-C Simplification, the Company replaced Old Atlas as the publicly held entity and, through its subsidiaries, conducts all of the operations previously conducted by Old Atlas, and Old Atlas remains the managing member of Atlas Operating.

Operational Developments

We commenced or completed several significant operational developments over the course of 2023. First, we expanded our Kermit production capacity by adding a new facility with 5.5 million tons of annual production capacity, for a combined total production capacity of 16.5 million tons annually from all three of our facilities as of December 31, 2023.

We also expanded our logistics offering. As of February 27, 2024, we added 120 trucks and 323 trailers to our fit-for-purpose trucking fleet, which we expect to improve our productivity, as measured by tons per truck that can be delivered daily, compared to the throughput performance of traditional trucking assets.

Finally, we broke ground on construction of the Dune Express in March of 2023. As of December 31, 2023, 90% of equipment and materials and 80% of installation and services for construction of the Dune Express have been ordered and contracted. Additionally, we have cleared, graded and laid caliche on vast majority of the right-of-way and have taken delivery of approximately 150 conveyor belt sections, equivalent to approximately 57 miles of total conveyor belt and over 100 miles of fiberoptic cable. The Dune Express is expected to be in service during the fourth quarter of 2024.

Financial Developments

On July 31, 2023, Atlas LLC entered into the 2023 Term Loan Credit Agreement with Stonebriar, as administrative agent and initial lender, pursuant to which Stonebriar extended Atlas LLC a term loan credit facility comprised of a \$180.0 million single advance term loan that was made on July 31, 2023, and commitments to provide up to \$100.0 million of delayed draw term loans.

The Initial Term Loan is payable in eighty-four consecutive monthly installments and a final payment of the remaining outstanding principal balance at maturity. The Initial Term Loan has a final maturity date of August 1, 2030. The Initial Term Loan bears interest at a rate equal to 9.50% per annum.

Each delayed draw term loan under the 2023 Term Loan Credit Facility other than the term loan that may be incurred in connection with the closing of the Hi-Crush Transaction ("DDT Loans") will be payable in equal monthly installments, with the monthly installments comprising 80% of the delayed draw term loan and a final payment of the remaining 20% of the outstanding principal balance due at maturity, unless earlier prepaid. The DDT Loans will bear interest at a rate equal to the applicable Term SOFR Rate as of each Delayed Draw Funding Date (each as defined in the 2023 Term Loan Credit Agreement) plus 5.95% per annum. All monthly installments with respect to the Initial Term Loan and the DDT Loans payable on or prior to January 1, 2025 will be interest only. See Note 7—*Debt* to the consolidated financial statements for more information.

In connection with the Hi-Crush Transaction in Q1 of 2024, Atlas LLC amended the 2023 ABL Credit Facility and the 2023 Term Loan Credit Facility. The 2023 ABL Credit Facility amendment, among other things and subject to certain conditions set forth therein, provides for an increase to the revolving credit commitment amount from \$50.0 million to \$125.0 million and an extension of the maturity date to February 26, 2029. The 2023 Term Loan Credit Facility amendment, among other things, provides for an incremental delayed draw term loan facility in the aggregate principal amount of up to \$150.0 million at an interest rate expected to be approximately 10.5%. Furthermore, concurrently with the closing of the Hi-Crush Transaction, the Company will enter into the Seller Note. See Note 15—*Subsequent Events* to the consolidated financial statements for more information.

Recent Trends and Outlook

Drilling and completions activities for oil and gas are highly correlated to oil and gas prices. The price for West Texas Intermediate (“WTI”) crude oil averaged \$77.61 per barrel (“Bbl”) in 2023, as compared to \$94.33 per Bbl in 2022, representing a decrease of more than 15%. Global oil prices declined over the course of the year, reflecting a more balanced market, led by declining macroeconomic sentiment and decreased global oil demand, despite the ongoing geopolitical tensions related to the conflicts in both Europe and the Middle East. As a result, oilfield activity levels remain relatively muted, or marginally lower, as we exited the year. The Permian Basin drilling rig count declined by 45 rigs year-over-year, ending the period at 307 active rigs. Despite the slowdown in completions activity, we anticipate a tightening supply dynamic due to lower global oil supply from Middle East resulting from geopolitical tensions, which may lead to supply chain disruptions, and OPEC+ rational guardianship, which could lead to increased activity levels during 2024 at higher commodity price levels.

Notwithstanding the volatility in the oil and gas markets, there are two potential positive long-term trends developing in the market:

- First, E&P companies are drilling longer lateral wells, which drives up proppant demand for each well completed in the Permian Basin. Longer laterals increase the number of frac stages required to frac as well. As lateral lengths continue to increase, the aggregate amount of proppant per well increases.
- Second, increased frac sand demand via improved completion efficiencies, driven by steady improvement in the average tons of sand pumped per frac crew per month. As frac crews become more efficient, they are able to increase their monthly sand consumption.

Despite some softness in current drilling and completions activity, the Permian Basin proppant market remains healthy. While the available Permian Basin proppant supply experienced marginal growth during the course of 2023, we believe the market remains balanced with potential to tighten up in 2024 with increased activity as demand for more Permian barrels is needed to balance the global oil markets.

In addition, the Permian Basin experienced a significant amount of consolidation among E&P companies in 2023. We believe our enhanced scale due to the recent addition of our new Kermit facility leaves us well-positioned to match the growing needs of our high-quality customer base, as E&P companies continue to scale up their operations.

How We Generate Revenue

We generate revenue by mining, processing and distributing proppant that our customers use in connection with their operations. We sell proppant to our customers under supply agreements or as spot sales at prevailing market rates, which is dependent upon the cost of producing proppant, the proppant volumes sold and the desired margin and prevailing market conditions.

Revenues also include charges for sand logistics services provided to our customers. Our logistics service revenue fluctuates based on several factors, including the volume of proppant transported, the distance between our facilities and our customers, and prevailing freight rates. Revenue is generally recognized as products are delivered in accordance with the contract.

Some of our contracts contain shortfall provisions that calculate agreed upon fees that are billed when the customer does not satisfy the minimum purchases over a period of time defined in each contract.

Costs of Conducting Our Business

We incur operating costs primarily from direct and indirect labor, freight charges, utility costs, fuel and maintenance costs and royalties. We incur labor costs associated with employees at our Kermit and Monahans facilities, which represent the most significant cost of converting proppant to finished product. Our Kermit and Monahans facilities undergo maintenance to minimize unscheduled downtime and ensure the ongoing quality of our proppant and ability to meet customer demands. We may incur variable utility costs in connection with the operation of our processing facilities, primarily natural gas and electricity, which are both susceptible to market fluctuations. We lease equipment in many areas of our operations, including our proppant production hauling equipment. We incur variable royalty expense and/or delay rentals related to our agreements with the owners of our reserves. In addition, other costs including overhead allocation, depreciation and depletion are capitalized as a component of inventory and are reflected in cost of sales when inventory is sold. Our logistics services incur operating costs primarily composed of variable freight charges from trucking companies' delivery of sand to customer wellsites, equipment leases, direct and indirect labor, fuel and maintenance costs and royalties.

How We Evaluate Our Operations

Non-GAAP Financial Measures

Adjusted EBITDA, Adjusted EBITDA Margin, Adjusted Free Cash Flow, Adjusted EBITDA less Capital Expenditures, Adjusted Free Cash Flow Margin, Adjusted EBITDA less Capital Expenditures Margin, Adjusted Free Cash Flow Conversion, Contribution Margin, Maintenance Capital Expenditures and Net Debt are non-GAAP supplemental financial measures used by our management and by external users of our financial statements such as investors, research analysts and others, in the case of Adjusted EBITDA, to assess our operating performance on a consistent basis across periods by removing the effects of development activities, provide views on capital resources available to organically fund growth projects and, in the case of Adjusted Free Cash Flow and Adjusted EBITDA less Capital Expenditures, assess the financial performance of our assets and their ability to sustain dividends or reinvest to organically fund growth projects over the long term without regard to financing methods, capital structure or historical cost basis.

We define Adjusted EBITDA as net income before depreciation, depletion and accretion, interest expense, income tax expense, stock and unit-based compensation, loss on extinguishment of debt, unrealized commodity derivative gain (loss), and non-recurring transaction costs. Management believes Adjusted EBITDA is useful because it allows them to more effectively evaluate our operating performance and compare the results of our operations from period to period and against our peers without regard to our financing methods or capital structure. We exclude the items listed above from net income in arriving at Adjusted EBITDA because these amounts can vary substantially from company to company within our industry depending upon accounting methods and book values of assets, capital structures and the method by which the assets were acquired.

We define Adjusted EBITDA Margin as Adjusted EBITDA divided by total sales.

We define Adjusted Free Cash Flow as Adjusted EBITDA less Maintenance Capital Expenditures. We define Adjusted EBITDA less Capital Expenditures as Adjusted EBITDA less net cash used in investing activities. We believe that Adjusted Free Cash

Flow and Adjusted EBITDA less Capital Expenditures are useful to investors as they provide measures of the ability of our business to generate cash.

We define Adjusted Free Cash Flow Margin as Adjusted Free Cash Flow divided by total sales.

We define Adjusted EBITDA less Capital Expenditures Margin as Adjusted EBITDA less Capital Expenditures divided by total sales.

We define Adjusted Free Cash Flow Conversion as Adjusted Free Cash Flow divided by Adjusted EBITDA.

We define Contribution Margin as gross profit plus depreciation, depletion and accretion expense.

We define Maintenance Capital Expenditures as capital expenditures excluding growth capital expenditures.

We define Net Debt as total debt, net of discount and deferred financing costs, plus finance right-of-use lease liabilities, less cash and cash equivalents.

Adjusted EBITDA, Adjusted EBITDA Margin, Adjusted Free Cash Flow, Adjusted EBITDA less Capital Expenditures, Adjusted Free Cash Flow Margin, Adjusted EBITDA less Capital Expenditures Margin, Adjusted Free Cash Flow Conversion, Contribution Margin, Maintenance Capital Expenditures and Net Debt do not represent and should not be considered alternatives to, or more meaningful than, net income, income from operations, net cash provided by operating activities or any other measure of financial performance presented in accordance with GAAP as measures of our financial performance. Adjusted EBITDA, Adjusted Free Cash Flow, and Adjusted EBITDA less Capital Expenditures have important limitations as analytical tools because they exclude some but not all items that affect net income, the most directly comparable GAAP financial measure. Our computation of Adjusted EBITDA, Adjusted EBITDA Margin, Adjusted Free Cash Flow, Adjusted Free Cash Flow Margin, Adjusted EBITDA less Capital Expenditures, Adjusted EBITDA less Capital Expenditures Margin, Adjusted Free Cash Flow Conversion, Contribution Margin, Maintenance Capital Expenditures and Net Debt may differ from computations of similarly titled measures of other companies.

The following table presents a reconciliation of Adjusted EBITDA, Adjusted EBITDA Margin, Adjusted Free Cash Flow, Adjusted EBITDA less Capital Expenditures, Adjusted Free Cash Flow Margin, Adjusted EBITDA less Capital Expenditures Margin, Adjusted Free Cash Flow Conversion, Contribution Margin, Maintenance Capital Expenditures and Net Debt to the most directly comparable GAAP financial measure for the periods indicated.

	For the Year Ended		
	2023	December 31, 2022	2021
	(In thousands)		
Net income (1)	\$ 226,493	\$ 217,006	\$ 4,258
Depreciation, depletion and accretion expense	41,634	28,617	24,604
Interest expense	17,452	15,803	30,290
Income tax expense	31,378	1,856	831
EBITDA	\$ 316,957	\$ 263,282	\$ 59,983
Stock and unit-based compensation	7,409	678	129
Loss on extinguishment of debt	—	—	11,922
Unrealized commodity derivative (gain) loss	—	66	(66)
Non-recurring transaction costs	5,289	—	—
Adjusted EBITDA	\$ 329,655	\$ 264,026	\$ 71,968
Maintenance Capital Expenditures	\$ 38,524	\$ 35,473	\$ 7,715
Adjusted Free Cash Flow	\$ 291,131	\$ 228,553	\$ 64,253

	For the Year Ended		
	2023	December 31, 2022	2021
	(In thousands)		
Net income (1)	\$ 226,493	\$ 217,006	\$ 4,258
Depreciation, depletion and accretion expense	41,634	28,617	24,604
Interest expense	17,452	15,803	30,290
Income tax expense	31,378	1,856	831
EBITDA	\$ 316,957	\$ 263,282	\$ 59,983
Stock and unit-based compensation expense	7,409	678	129
Loss on extinguishment of debt	—	—	11,922
Unrealized commodity derivative (gain) loss	—	66	(66)
Non-recurring transaction costs	5,289	—	—
Adjusted EBITDA	\$ 329,655	\$ 264,026	\$ 71,968
Capital expenditures	\$ 365,486	\$ 89,592	\$ 19,371
Adjusted EBITDA less Capital Expenditures	\$ (35,831)	\$ 174,434	\$ 52,597

	For the Year Ended		
	December 31,		
	2023	2022	2021
	(In thousands)		
Net cash provided by operating activities	\$ 299,027	\$ 206,012	\$ 21,356
Repayment of paid-in-kind interest borrowings	—	—	22,233
Current income tax expense (benefit)(2)	2,177	1,858	471
Change in operating assets and liabilities	6,947	41,774	8,622
Cash interest expense(2)	16,354	14,904	19,173
Maintenance Capital Expenditures(2)	(38,524)	(35,473)	(7,715)
Non-recurring transaction costs	5,289	—	—
Other	(139)	(522)	113
Adjusted Free Cash Flow	\$ 291,131	\$ 228,553	\$ 64,253

	For the Year Ended		
	December 31,		
	2023	2022	2021
	(In thousands, except percentages)		
Net cash provided by operating activities	\$ 299,027	\$ 206,012	\$ 21,356
Repayment of paid-in-kind interest borrowings	—	—	22,233
Current income tax expense (benefit)(2)	2,177	1,858	471
Change in operating assets and liabilities	6,947	41,774	8,622
Cash interest expense(2)	16,354	14,904	19,173
Capital expenditures	(365,486)	(89,592)	(19,371)
Non-recurring transaction costs	5,289	—	—
Other	(139)	(522)	113
Adjusted EBITDA less Capital Expenditures	\$ (35,831)	\$ 174,434	\$ 52,597
Adjusted EBITDA Margin	53.7 %	54.7 %	41.7 %
Adjusted EBITDA less Capital Expenditure Margin	(5.8)%	36.1 %	30.5 %
Adjusted Free Cash Flow Margin	47.4 %	47.3 %	37.3 %
Adjusted Free Cash Flow Conversion	88.3 %	86.6 %	89.3 %

	For the Year Ended		
	December 31,		
	2023	2022	2021
	(In thousands)		
Gross Profit	\$ 313,766	\$ 256,308	\$ 64,067
Depreciation, depletion and accretion expense	39,798	27,498	23,681
Contribution Margin	\$ 353,564	\$ 283,806	\$ 87,748

(1) Atlas Energy Solutions Inc. is a corporation and is subject to U.S. federal income tax. Atlas LLC has either been treated as a disregarded entity or a partnership for income tax purposes and, therefore, was not subject to U.S. federal income tax at an entity level during the periods presented. As a result, the consolidated net income in our historical financial statements does not reflect the tax expense we would have incurred if we had been subject to U.S. federal income tax at an entity level during such periods.

(2) A reconciliation of the adjustment of these items used to calculate Adjusted Free Cash Flow to the Consolidated Financial Statements is included below.

	For the Year Ended December 31,		
	2023	2022	2021
	(In thousands)		
<u>Current tax expense reconciliation:</u>			
Income tax expense	\$ 31,378	\$ 1,856	\$ 831
Less: deferred tax expense	(29,201)	2	(360)
Current income tax expense (benefit)	<u>\$ 2,177</u>	<u>\$ 1,858</u>	<u>\$ 471</u>
<u>Cash interest expense reconciliation:</u>			
Interest expense, net, excluding loss on extinguishment of debt	\$ 7,689	\$ 15,760	\$ 30,276
Less: Interest paid-in-kind through issuance of additional term loans	—	—	(3,039)
Less: Amortization of debt discount	(761)	(457)	(7,320)
Less: Amortization of deferred financing costs	(337)	(442)	(739)
Less: Interest income	9,763	43	14
Less: Other	—	—	(19)
Cash interest expense	<u>\$ 16,354</u>	<u>\$ 14,904</u>	<u>\$ 19,173</u>
<u>Maintenance Capital Expenditures, accrual basis reconciliation:</u>			
Purchases of property, plant and equipment	\$ 365,486	\$ 89,592	\$ 19,371
Changes in operating assets and liabilities associated with investing activities(3)	66,132	20,747	2,362
Less: Growth capital expenditures and capital lease additions	(393,094)	(74,866)	(14,018)
Maintenance Capital Expenditures, accrual basis	<u>\$ 38,524</u>	<u>\$ 35,473</u>	<u>\$ 7,715</u>

	For the Year Ended December 31,		
	2023	2022	2021
	(In thousands)		
Total Debt	\$ 172,820	\$ 147,174	\$ 175,275
Discount and deferred financing costs	7,180	1,821	2,264
Finance right-of-use lease liabilities(4)	422	20,155	—
Capital lease liabilities(4)	—	—	635
Cash and cash equivalents	210,174	82,010	40,401
Net Debt	<u>\$ (29,752)</u>	<u>\$ 87,140</u>	<u>\$ 137,773</u>

(3) Positive working capital changes reflect capital expenditures in the current period that will be paid in a future period. Negative working capital changes reflect capital expenditures incurred in a prior period but paid during the period presented.

(4) On January 1, 2022, the Company adopted ASU 2016-02, Leases (Topic 842), which resulted in the recognition of \$0.6 million of finance right-of-use lease liabilities, previously recognized as capital lease liabilities. Information prior to January 1, 2022 has not been restated and continues to be reported under the accounting standards in effect for the period (Accounting Standards Codification (“ASC”) Topic 840).

Factors Affecting the Comparability of Our Results of Operations

Long-Term Incentive Plan

In order to incentivize management members, in March 2023, our Board adopted the LTIP for the benefit of employees, directors and consultants of the Company and its affiliates. The LTIP provides for the grant of all or any of the following types of awards: (1) incentive stock options qualified as such under U.S. federal income tax laws; (2) stock options that do not qualify as incentive stock options; (3) stock appreciation rights; (4) restricted stock awards; (5) restricted stock units (“RSUs”); (6) bonus stock; (7) dividend equivalents; (8) other stock-based awards; (9) cash awards; and (10) substitute awards. As such, our historical financial data may not present an accurate indication of what our actual results would have been if we had implemented the LTIP program prior to the periods presented.

Public Company Expenses

As a result of the IPO, we incurred direct, incremental selling, general and administrative expenses as a result of being a publicly traded company, including, but not limited to, costs associated with hiring new personnel, implementation of compensation programs that are competitive with our public company peer group, including stock-based compensation, preparing quarterly reports to stockholders, tax return preparation, independent and internal auditor fees, investor relations activities, registrar and transfer agent fees, incremental director and officer liability insurance costs and independent director compensation. These direct, incremental selling, general and administrative expenses are not included in our results of operations prior to the IPO.

Income Taxes

Atlas Inc. is a corporation subject to U.S. federal, state and local income taxes. Although Atlas Predecessor is subject to margin tax in the State of Texas (at less than 1% of modified pre-tax earnings), it is and historically has been treated as a pass-through entity for U.S. federal, state and local income tax purposes, and as such generally is and was not subject to U.S. federal, state or local income taxes. Rather, the tax liability with respect to the taxable income of Atlas Predecessor is and was passed through to its owners. Accordingly, the financial data attributable to Atlas Predecessor contains no provision for U.S. federal income taxes or income taxes in any state or locality (other than margin tax in the State of Texas). Atlas Inc. is subject to U.S. federal, state and local taxes at a blended statutory rate of approximately 22%.

We account for income taxes under the asset and liability method. Under this method, deferred tax assets and liabilities are recognized for the estimated future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred tax assets and liabilities are measured using enacted tax rates in effect for the year in which those temporary differences are expected to be recovered or settled pursuant to the provisions of ASC 740, Income Taxes. The effect on deferred tax assets and liabilities of a change in tax rate is recognized in earnings in the period that includes the enactment date. Valuation allowances are established when necessary to reduce deferred tax assets to the amounts more likely than not to be realized.

On March 13, 2023 (the closing date of the IPO), a corresponding deferred tax liability of approximately \$27.5 million associated with the differences between the tax and book basis of the investment in Atlas LLC was recorded. The offset of the deferred tax liability was recorded to additional paid-in capital.

On October 2, 2023, the date on which the Company completed the Up-C Simplification, a corresponding deferred tax liability of approximately \$62.7 million was recorded associated with the exchange of the redeemable noncontrolling interest in Old Atlas for shares of the Company's Common Stock. The offset of the deferred tax liability was recorded to additional paid-in capital.

Results of Operations

	2023	For the Year Ended December 31,	
		2022	2021
		(In thousands)	
Product sales	\$ 468,119	\$ 408,446	\$ 142,519
Service sales	145,841	74,278	29,885
Total sales	613,960	482,724	172,404
Cost of sales (excluding depreciation, depletion and accretion expense)	260,396	198,918	84,656
Depreciation, depletion and accretion expense	39,798	27,498	23,681
Gross profit	313,766	256,308	64,067
Operating expenses:			
Selling, general and administrative expense (including stock and unit-based compensation expense of \$7,409, \$678, and \$129, respectively.)	48,636	24,317	17,071
Operating income	265,130	231,991	46,996
Interest expense, net	(7,689)	(15,760)	(42,198)
Other income	430	2,631	291
Income before income taxes	257,871	218,862	5,089
Income tax expense	31,378	1,856	831
Net income	<u>\$ 226,493</u>	<u>\$ 217,006</u>	<u>\$ 4,258</u>

Year Ended December 31, 2023 Compared To Year Ended December 31, 2022

Product sales. Product sales increased by \$59.7 million to \$468.1 million for the year ended December 31, 2023, as compared to \$408.4 million for the year ended December 31, 2022. An increase in proppant prices between the periods contributed to a \$27.9 million positive impact and an increase in sales volume contributed a \$31.8 million positive impact.

Service sales. Services sales, which includes freight for last-mile logistics services, increased by \$71.5 million to \$145.8 million for the year ended December 31, 2023, as compared to \$74.3 million for the year ended December 31, 2022. The increase in logistics revenue was due to higher sales volumes shipped to last-mile logistics customers.

Cost of sales (excluding depreciation, depletion and accretion expense). Cost of sales (excluding depreciation, depletion and accretion expense) increased by \$61.5 million to \$260.4 million for the year ended December 31, 2023, as compared to \$198.9 million for the year ended December 31, 2022.

Cost of sales (excluding depreciation, depletion and accretion) related to product sales increased by \$1.0 million to \$131.8 million for the year ended December 31, 2023, as compared to \$130.8 million for the year ended December 31, 2022, due to higher sales volumes, which increased maintenance expense and mining costs.

Cost of sales (excluding depreciation, depletion and accretion expense) related to services increased by \$60.5 million to \$128.6 million for the year ended December 31, 2023, as compared to \$68.1 million for the year ended December 31, 2022, due to higher sales volumes shipped to last-mile logistics customers during the period.

Depreciation, depletion and accretion expense. Depreciation, depletion and accretion expense increased by \$12.3 million to \$39.8 million for the year ended December 31, 2023, as compared to \$27.5 million for the year ended December 31, 2022. The increase in depreciation, depletion and accretion expense was due to increased units of production depletion due to higher proppant production and additional depreciable assets placed into service when compared to the prior period.

Selling, general and administrative expense. Selling, general and administrative expense increased by \$24.3 million to \$48.6 million for the year ended December 31, 2023, as compared to \$24.3 million for the year ended December 31, 2022. The increase was primarily due to an increase of \$10.7 million of employee costs, including an increase of \$6.7 million of stock- and unit-based compensation expense, \$8.3 million of travel, sales and other corporate expenses associated with increased opportunities to conduct commercial business development efforts, incremental costs incurred in conjunction with our transition to a publicly traded company, and broadening sales efforts due to our substantial growth in the logistics space, and \$5.3 million for non-recurring transaction costs related to the Up-C Simplification and the refinancing of the 2023 Term Loan Credit Facility during the year ended December 31, 2023.

Our selling, general and administrative expense includes the non-cash expense for stock- and unit-based compensation expense for equity awards granted to our employees. For the year ended December 31, 2023, unit-based compensation expense was \$0.3 million and stock-based compensation expense was \$7.1 million, as compared to \$0.7 million of unit-based compensation expense and no stock-based compensation expense for the year ended December 31, 2022.

Interest expense, net. Interest expense, net decreased by \$8.1 million to \$7.7 million for the year ended December 31, 2023, as compared to \$15.8 million for the year ended December 31, 2022. The decrease was driven by an increase in interest income of \$9.8 million related to interest earned on net IPO proceeds.

Income tax expense. Income tax expense increased by \$29.5 million to \$31.4 million for the year ended December 31, 2023, as compared to \$1.9 million for the year ended December 31, 2022. The increase was primarily due to Atlas Inc. incurring U.S. federal income taxes subsequent to our IPO-related reorganization in March of 2023.

Year Ended December 31, 2022 Compared To Year Ended December 31, 2021

Product sales. Product sales increased by \$265.9 million to \$408.4 million for the year ended December 31, 2022, as compared to \$142.5 million for the year ended December 31, 2021. An increase in proppant prices between the periods contributed to a \$233.1 million positive impact, while an increase in sales volume contributed a \$32.8 million positive impact.

Service sales. Services sales, which includes freight for last-mile logistics services, increased by \$44.4 million to \$74.3 million for the year ended December 31, 2022, as compared to \$29.9 million for the year ended December 31, 2021. The increase in logistics revenue was due to higher sales volumes shipped to last-mile logistics customers.

Cost of sales (excluding depreciation, depletion and accretion expense). Cost of sales (excluding depreciation, depletion and accretion expense) increased by \$114.2 million to \$198.9 million for the year ended December 31, 2022, as compared to \$84.7 million for the year ended December 31, 2021.

Cost of sales (excluding depreciation, depletion and accretion) related to product sales increased by \$73.0 million to \$130.8 million for the year ended December 31, 2022, as compared to \$57.8 million for the year ended December 31, 2021, due to higher sales volumes, which increased costs for utilities, maintenance, royalties and transition costs related to purchase of dredge equipment, requiring temporary usage of traditional mining rental equipment.

Cost of sales (excluding depreciation, depletion and accretion expense) related to services increased by \$41.2 million to \$68.1 million for the year ended December 31, 2022, as compared to \$26.9 million for the year ended December 31, 2021, due to higher sales volumes shipped to last-mile logistics customers during the period.

Depreciation, depletion and accretion expense. Depreciation, depletion and accretion expense increased by \$3.8 million to \$27.5 million for the year ended December 31, 2022, as compared to \$23.7 million for the year ended December 31, 2021. The increase in depreciation, depletion and accretion expense was due to increased units of production depletion due to higher sand production and additional depreciable assets placed into service when compared to the prior period.

Selling, general and administrative expense. Selling, general and administrative expense increased by \$7.2 million to \$24.3 million for the year ended December 31, 2022, as compared to \$17.1 million for the year ended December 31, 2021. The increase is primarily due to an increase of \$5.1 million of employee costs, including an increase of \$0.6 million of unit-based compensation expense, and \$2.1 million of travel, sales and other corporate expenses associated with increased opportunities to conduct commercial business development efforts in person during the year ended December 31, 2022.

Our selling, general and administrative expenses include the non-cash expense for unit-based compensation for equity awards granted to our employees. For the year ended December 31, 2022, unit-based compensation expense was \$0.7 million, as compared to \$0.1 million of unit-based compensation expense for the year ended December 31, 2021.

Interest expense, net. Interest expense, net decreased by \$26.4 million to \$15.8 million for the year ended December 31, 2022, as compared to \$42.2 million for the year ended December 31, 2021. The decrease is primarily due to the recognition of a loss on extinguishment of debt of \$16.4 million resulting from the recognition of unamortized debt discount and deferred financing costs of \$11.9 million and a make-whole premium of \$4.5 million paid upon redemption of the 2018 Term Loan Credit Facility during the year ended December 31, 2021. This decrease was partially offset by the recognition of gain on extinguishment of debt of \$4.5 million due to the forgiveness of an SBA Paycheck Protection Program Loan and the related accrued interest expense during the year ended December 31, 2021. The remaining decrease is due to the outstanding 2021 Term Loan Credit Facility, which accrued \$14.0 million of interest expense and \$0.7 million of amortization of debt discount and deferred financing costs during the year ended December 31, 2022, as compared to the 2018 Term Loan Credit Facility and 2021 Term Loan Facility, which accrued \$22.0 million of interest expense and \$7.7 million of amortization of debt discount and deferred financing costs during the year ended December 31, 2021.

Income tax expense. Income tax expense increased by \$1.1 million to \$1.9 million for the year ended December 31, 2022, as compared to \$0.8 million for the year ended December 31, 2021. The increase is primarily due to increased revenues, which increased our liability related to Texas franchise taxes.

Liquidity and Capital Resources

Overview

Historically, our primary sources of liquidity to date have been capital contributions from our owners, cash flows from operations, and borrowings under our 2018 Term Loan Credit Facility, which was refinanced by our 2021 Term Loan Credit Facility, and our previous asset-based loan credit facility, the 2018 ABL Credit Facility. Going forward, we expect our primary sources of liquidity to be cash flows from operations, the net proceeds retained from the IPO, availability under our 2023 ABL Credit Facility, borrowings under our 2023 Term Loan Credit Facility or any other credit facility we enter into in the future and proceeds from any future issuances of debt or equity securities. We expect our primary use of capital will be used for the financing of the Hi-Crush Transaction, payment of any distributions and dividends to our stockholders and for investing in our business, specifically for construction of the Dune Express, and acquisition of fit-for-purpose equipment for our trucking fleet used in our logistics platform. In addition, we have routine facility upgrades and additional ancillary capital expenditures associated with, among other things, contractual obligations and working capital obligations.

As of December 31, 2023, we had working capital, defined as current assets less current liabilities, of \$226.1 million, \$73.9 million of availability under the 2023 ABL Credit Facility, and \$100.0 million of DDT Loans under the 2023 Term Loan Credit Facility. Our cash and cash equivalents totaled \$210.2 million.

Cash Flow

The following table summarizes our cash flow for the periods indicated:

		For the Year Ended	
		December 31	
	2023	2022	2021
		(In thousands)	
Consolidated Statement of Cash Flow Data:			
Net cash provided by operating activities	\$ 299,027	\$ 206,012	\$ 21,356
Net cash used in investing activities	(365,486)	(89,592)	(19,371)
Net cash provided by (used in) financing activities	194,623	(74,811)	2,344
Net increase in cash	<u>\$ 128,164</u>	<u>\$ 41,609</u>	<u>\$ 4,329</u>

Year Ended December 31, 2023 Compared To The Year Ended December 31, 2022

Net Cash Provided by Operating Activities. Net cash provided by operating activities was \$299.0 million and \$206.0 million for the years ended December 31, 2023 and 2022, respectively. The increase was attributable to increased revenues of \$131.2 million, offset by a \$61.5 million increase in cost of sales (excluding depreciation, depletion and accretion expense) and a \$34.8 million increase in cash from changes in working capital primarily attributable to a decrease in our accounts receivable balance from December 31, 2022 to December 31, 2023.

Net Cash Used in Investing Activities. Net cash used in investing activities was \$365.5 million and \$89.6 million for the years ended December 31, 2023 and 2022, respectively. The increase was due to an increase in capital spending in connection with the Dune Express, plant capacity expansion at our Kermit location, and logistics assets during the year ended December 31, 2023, when compared to the year ended December 31, 2022.

Net Cash Provided by (Used in) Financing Activities. Net cash provided by financing activities was \$194.6 million and net cash used in financing activities was \$74.8 million for the years ended December 31, 2023 and 2022, respectively. The increase is primarily due to cash inflows of \$303.4 million from net IPO proceeds during the year ended December 31, 2023. This was offset by an increase of cash outflows of \$32.1 million of dividends and distributions during the year ended December 31, 2023 compared to the year ended December 31, 2022.

Year Ended December 31, 2022 Compared To The Year Ended December 31, 2021

Net Cash Provided by Operating Activities. Net cash provided by operating activities was \$206.0 million and \$21.4 million for the years ended December 31, 2022 and 2021, respectively. The increase was attributable to increased revenues of \$310.3 million offset by a \$114.3 million increase in cost of sales (excluding depreciation, depletion and accretion expense).

Net Cash Used in Investing Activities. Net cash used in investing activities was \$89.6 million and \$19.4 million for the years ended December 31, 2022 and 2021, respectively. The increase was due to an increase in capital spending in connection with the plant capacity expansion at our Kermit location, Dune Express and logistics assets during the year ended December 31, 2022, when compared to the year ended December 31, 2021.

Net Cash Provided by (Used in) Financing Activities. Net cash used in financing activities was \$74.8 million year ended December 31, 2022. Net cash provided by financing activities was \$2.3 million for the year ended December 31, 2021. The change was due to a decrease of \$178.2 million of proceeds from term loan borrowings related to the funding of the 2021 Term Loan Credit Facility, a decrease of \$148.8 million of payments on term loan borrowings and debt prepayment and extinguishment costs related to the repayment of the 2018 Term Loan Credit Facility, an increase of \$35.0 million for member distributions, and a decrease in proceeds from equity issuances of \$12.6 million during the year ended December 31, 2022, compared to the year ended December 31, 2021.

Capital Requirements

Our primary growth and technology initiatives include continued construction of the Dune Express and acquisition of fit-for-purpose equipment for our trucking fleet. Outside of our growth and technology initiatives, our business is not presently capital intensive in nature and only requires the maintenance of our Kermit and Monahans facilities. In addition to capital expenditures, we have certain contractual long-term capital requirements associated with our lease, royalty payments and debt. See Note 6 - *Leases*, Note 7 - *Debt* and Note 8 - *Commitments and Contingencies* of the consolidated financial statements included elsewhere in this Annual Report. Our current level of maintenance capital expenditures is expected to remain within our cash on hand and internally generated cash flow.

We expect to use the remaining net proceeds from the IPO to fund construction of the Dune Express over the next approximately 12 months. We intend to fund our other capital requirements through our primary sources of liquidity, which include cash on hand and cash flows from operations and, if needed, availability under our 2023 ABL Credit Facility and borrowings under our 2023 Term Loan Credit Facility.

At any time that our Board declares a dividend to holders of our Common Stock, we currently expect such dividend to be paid from cash provided by operating activities. We do not expect to borrow funds to finance dividends on our Common Stock. The timing and amount of any future dividends will be subject to the discretion of our Board from time to time.

Debt Agreements

2023 Term Loan Credit Facility

On July 31, 2023, Atlas LLC entered into the 2023 Term Loan Credit Agreement with Stonebriar, as administrative agent and initial lender, pursuant to which Stonebriar extended Atlas LLC a term loan credit facility comprised of a \$180.0 million single advance term loan that was made on July 31, 2023 and commitments to provide up to \$100.0 million of DDT Loans. The Initial Term Loan is payable in eighty-four consecutive monthly installments and a final payment of the remaining outstanding principal balance at maturity. The Initial Term Loan has a final maturity date of August 1, 2030 (the “Maturity Date”). The Initial Term Loan bears interest at a rate equal to 9.50% per annum.

Each DDT Loan under the 2023 Term Loan Credit Facility will be payable in equal monthly installments, with the monthly installments comprising 80% of the DDT Loan and a final payment of the remaining 20% of the outstanding principal balance due at maturity, unless earlier prepaid. The DDT Loans will bear interest at a rate equal to the applicable Term SOFR Rate (as defined in the 2023 Term Loan Credit Agreement) plus 5.95% per annum. All monthly installments with respect to the Initial Term Loan and the DDT Loans payable on or prior to January 1, 2025 will be interest only.

At any time prior to the Maturity Date, Atlas LLC may redeem loans outstanding under the 2023 Term Loan Credit Facility, in whole or in part, at a price equal to 100% of the Prepayment Amount (as defined in the 2023 Term Loan Credit Agreement) plus a prepayment fee. The prepayment fee is 8% of the Prepayment Amount for any prepayment that occurs on or prior to December 31, 2024, 4% of the Prepayment Amount for any prepayment that occurs after December 31, 2024 but on or prior to December 31, 2025, 3% of the Prepayment Amount for any prepayment that occurs after December 31, 2025 but on or prior to December 31, 2026 and 2% of the Prepayment Amount for any prepayment that occurs thereafter. Upon the maturity of the 2023 Term Loan Credit Facility, the entire unpaid principal amount of the loans outstanding thereunder, together with interest, fees and other amounts payable in connection with the facility, will be immediately due and payable without further notice or demand.

Dividends and distributions to equity holders are permitted to be made pursuant to certain limited exceptions and baskets described in the 2023 Term Loan Credit Agreement and otherwise generally subject to certain restrictions set forth in the 2023 Term Loan Credit Agreement, including the requirements that (a) no Event of Default (as defined under the 2023 Term Loan Credit Agreement) has occurred and is continuing and (b) Atlas LLC maintains at least \$30.0 million of Liquidity (as defined under the 2023 Term Loan Credit Agreement) pro forma for the Restricted Payment (as defined under the 2023 Term Loan Credit Agreement).

The 2023 Term Loan Credit Facility includes certain non-financial covenants, including but not limited to restrictions on incurring additional debt and certain distributions. The 2023 Term Loan Credit Facility is subject to a maximum 4.0 to 1.0 Leverage Ratio (as defined in the 2023 Term Loan Credit Agreement) financial covenant. Such financial covenant is tested as of the last day of each fiscal quarter.

Proceeds from the 2023 Term Loan Credit Facility were used to repay outstanding indebtedness under our previous 2021 Term Loan Credit Facility with Stonebriar, to repay obligations outstanding under certain equipment lease arrangements with Stonebriar and for general corporate purposes.

The 2023 Term Loan Credit Facility is unconditionally guaranteed, jointly and severally, by Atlas LLC and its subsidiaries and secured by substantially all of the assets of Atlas LLC and its subsidiaries. The 2023 Term Loan Credit Facility is unconditionally guaranteed on an unsecured basis by Atlas Inc.

2023 ABL Credit Facility

On February 22, 2023, Atlas LLC, certain of its subsidiaries, as guarantors, Bank of America, N.A., as agent, and certain financial institutions party thereto as lenders (the “ABL Lenders”) entered into the 2023 ABL Credit Agreement pursuant to which the ABL Lenders provide revolving credit financing to the Company in an aggregate principal amount of up to \$75.0 million, with Availability (as defined in the 2023 ABL Credit Agreement) thereunder subject to a “Borrowing Base” as described in the 2023 ABL Credit Agreement. The 2023 ABL Credit Facility includes a letter of credit sub-facility, which permits issuances of letters of credit up to an aggregate amount of \$25.0 million. The scheduled maturity date of the 2023 ABL Credit Facility is February 22, 2028; provided that the 2023 ABL Credit Facility will mature on June 30, 2027 if any amount of the 2023 Term Loan Credit Facility that has a maturity date less than 91 days prior to February 22, 2028 is outstanding on June 30, 2027.

Borrowings under the 2023 ABL Credit Facility bear interest, at the Company's option, at either a base rate or Term Secured Overnight Financing Rate ("SOFR"), as applicable, plus an applicable margin based on average availability as set forth in the 2023 ABL Credit Agreement. Term SOFR loans bear interest at Term SOFR for the applicable interest period plus an applicable margin, which ranges from 1.50% to 2.00% per annum based on average availability as set forth in the 2023 ABL Credit Agreement. Base rate loans bear interest at the applicable base rate, plus an applicable margin, which ranges from 0.50% to 1.00% per annum based on average availability as set forth in the 2023 ABL Credit Agreement. In addition to paying interest on outstanding principal under the 2023 ABL Credit Facility, the Company is required to pay a commitment fee which ranges from 0.375% per annum to 0.500% per annum with respect to the unutilized commitments under the 2023 ABL Credit Facility, based on the average utilization of the 2023 ABL Credit Facility. The Company is also required to pay customary letter of credit fees, to the extent that one or more letter of credit is outstanding.

Under the 2023 ABL Credit Agreement, Atlas LLC is permitted to make payments of dividends and distributions pursuant to certain limited exceptions and baskets set forth therein and otherwise generally subject to certain restrictions, including that (i) no Event of Default (as defined under the 2023 ABL Credit Agreement) has occurred and is continuing, and (ii) no loans and no more than \$7.5 million in letters of credit that have not been cash collateralized are outstanding, and liquidity exceeds \$30.0 million at all times during the 30 days prior to the date of the dividend or distribution; provided that if any loans are outstanding or outstanding letters of credit exceed \$7.5 million and no Event of Default has occurred and is continuing, then Atlas LLC is permitted to make payments of dividends and distributions if, (i) Availability (as defined under the 2023 ABL Credit Agreement) is higher than the greater of (a) \$12 million and (b) 20% of the pro forma Borrowing Base then in effect and during the 30 days prior to the date of the dividend or distribution as if such dividend or distribution had been made at the beginning of such period, or if (ii) (a) Availability is higher than the greater of (x) \$9 million and (y) 15% of the pro forma Borrowing Base then in effect and during the 30 days prior to the date of the dividend or distributions as if such dividend or distribution had been made at the beginning of such period and (b) the Fixed Charge Coverage Ratio (as defined under the 2023 ABL Credit Agreement), as calculated on a pro forma basis, is greater than 1.00 to 1.00, as provided under the 2023 ABL Credit Agreement. Additionally, Atlas LLC may make additional payments of dividends and distributions in qualified equity interests and may make Permitted Tax Distributions (as defined under the 2023 ABL Credit Agreement).

The 2023 ABL Credit Facility is unconditionally guaranteed, jointly and severally, by Atlas LLC and its subsidiaries and secured by substantially all of the assets of Atlas LLC and its subsidiaries.

2021 Term Loan Credit Facility

Prior to entering into the 2023 Term Loan Credit Facility, the Company had borrowings and accrued interest of \$133.4 million under the 2021 Term Loan Credit Facility. On July 31, 2023, the Company entered into the 2023 Term Loan Credit Facility. Proceeds from the 2023 Term Loan Credit Facility were used to repay \$133.4 million of 2021 Term Loan Credit Facility principal and accrued interest, repay \$42.8 million of finance lease liabilities as well as acquire \$39.5 million of finance lease assets associated with certain equipment lease arrangements with Stonebriar.

2018 ABL Credit Facility

Prior to entering into the 2023 ABL Credit Facility, the Company maintained a revolving credit facility with a borrowing capacity of up to \$50.0 million. On February 22, 2023, the Company terminated the 2018 ABL Credit Facility. The Company did not have borrowings under the credit facility at termination.

Off Balance Sheet Arrangements

We currently have no material off-balance sheet arrangements.

Critical Accounting Policies and Estimates

The preparation of financial statements requires the use of judgments and estimates. Our critical accounting policies are described below to provide a better understanding of how we develop our assumptions and judgments about future events and related estimates and how they can impact our financial statements. A critical accounting estimate is one that requires our most difficult, subjective or complex estimates and assessments and is fundamental to our results of operations.

We base our estimates on historical experience and on various other assumptions we believe to be reasonable according to the current facts and circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. A summary of our significant accounting policies is included in Note 2 - *Summary of Significant Accounting Policies* to the Consolidated Financial Statements in Item 8. "Financial Statements and Supplementary Data" of this Annual Report.

We prepare our consolidated financial statements in conformity with GAAP, which require us to make estimates and assumptions about future events that affect the amounts reported in the consolidated financial statements and accompanying footnotes. Actual results could differ from those estimates. We believe that the following discussion addresses our most critical accounting estimates, which require management's most subjective and complex judgments.

Property, Plant and Equipment, Including Depreciation and Depletion

In order to calculate depreciation of our fixed assets, other than plant facilities and mine development costs, we use the best estimated useful lives at the time the asset is placed into service.

Mining property and development costs, including plant facilities directly associated with mining properties, are amortized using the units of production method on estimated measures of tons of in-place reserves. The impact to reserve estimates is recognized on a prospective basis. Drilling and related costs are capitalized for deposits where proven and probable reserves exist. These activities are directed at obtaining additional information on the deposit or converting non-reserve minerals to proven and probable reserves, with the benefit being realized over a period greater than one year. At a minimum, we will assess the useful lives and residual values of all long-lived assets on an annual basis to determine if adjustments are required. The actual reserve life may differ from the assumptions we have made about the estimated reserve life.

We review property, plant and equipment for impairment annually or whenever events or changes in circumstances indicate that the carrying value of such assets may not be recoverable. If such a review should indicate that the carrying amount of long-lived assets is not recoverable, the Company will reduce the carrying amount of such assets to fair value.

Emerging Growth Company Status

Under the JOBS Act, we meet the definition of an “emerging growth company,” which allows us to have an extended transition period for complying with new or revised accounting standards pursuant to Section 107(b) of the JOBS Act. We have elected to take advantage of all of the reduced reporting requirements and exemptions, including the longer phase-in periods for the adoption of new or revised financial accounting standards under Section 107 of the JOBS Act, until we are no longer an emerging growth company.

Our election to use the phase-in periods permitted by this election may make it difficult to compare our financial statements to those of non-emerging growth companies and other emerging growth companies that have opted out of the longer phase-in periods under Section 107 of the JOBS Act and that will comply with new or revised financial accounting standards. If we were to subsequently elect instead to comply with these public company effective dates, such election would be irrevocable pursuant to Section 107 of the JOBS Act.

Recent Accounting Pronouncements

See Note 2 - *Summary of Significant Accounting Policies* in the notes to our consolidated financial statements for further discussion regarding recently issued accounting standards.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk.

Commodity Price Risks

The market for our services is indirectly exposed to fluctuations in the price of crude oil and natural gas, to the extent such fluctuations impact drilling and completion activity levels and thus impact the activity levels of our customers in the exploration and production and oilfield services industries. We do not currently intend to hedge our indirect exposure to commodity price risk.

Our natural gas purchases expose us to commodity price risk. Our facility operations require natural gas consumption for equipment used in the manufacturing of proppant. Pricing for natural gas has been volatile and unpredictable for several years, and this volatility is expected to continue in the future. The cost we pay for our natural gas depends on many factors outside of our control, such as the strength of the global economy and global supply and demand for the commodities we produce. To reduce the impact of fluctuations in natural gas prices on our operational costs, we periodically enter into commodity derivative contracts with respect to certain of our forecasted natural gas usage through various transactions that reduce the impact of price volatility. For the years ended December 31, 2023 and 2022, we did not have derivatives. In the future, we will consider entering into such transactions to reduce the impact of commodity price volatility on our cash flow from operations.

Interest Rate Risks

We are subject to interest rate risk on a portion of our long-term debt under the 2023 ABL Credit Facility. The amounts owed under our 2023 ABL Credit Facility use SOFR as a benchmark for establishing the rate at which interest accrues. We do not currently have any borrowings under our 2023 ABL Credit Facility and do not currently have or intend to enter into any derivative arrangements to protect against fluctuations in interest rates applicable to our outstanding indebtedness under our 2023 ABL Credit Facility.

Assuming no change in the amount of debt outstanding, a 100 basis point increase in the average interest rate under these borrowings would have no impact to our interest expense related to our variable rate debt, as we do not currently have any borrowings under our 2023 ABL Credit Facility.

Market Risks

The demand, pricing and terms for proppant and last-mile services provided by us are largely dependent upon the level of drilling activity in the oil and natural gas industry in the Permian Basin. These activity levels are influenced by numerous factors over which we have no control, including, but not limited to: the supply of and demand for oil and natural gas; the level of prices, and expectations about future prices of oil and natural gas; the cost of exploring for, developing, producing and delivering oil and natural gas; the expected rates of declining current production; the discovery rates of new oil and natural gas reserves; available rail and other transportation capacity; weather conditions; domestic and worldwide economic conditions; political instability in oil-producing countries; environmental regulations; technical advances affecting energy consumption; the price and availability of alternative fuels; the ability of oil and natural gas companies to raise equity capital and debt financing; and merger and divestiture activity among oil and natural gas companies.

The level of U.S. oil and natural gas drilling is volatile. Expected trends in oil and natural gas production activities may not materialize and demand for our services may not reflect the level of activity in the industry. Any prolonged and substantial reduction in oil and natural gas prices would likely affect oil and natural gas production levels and therefore affect demand for our services. A material decline in oil and natural gas prices or Permian Basin activity levels could have an adverse effect on our business, financial condition, results of operations and cash flows.

Credit Risks

We are subject to risks of loss resulting from nonpayment or nonperformance by our customers. We examine the creditworthiness of third-party customers to whom we extend credit and manage our exposure to credit risk through credit analysis, credit approval, credit limits and monitoring procedures, and for certain transactions, we may request letters of credit, prepayments or guarantees, although collateral is generally not required. For the year ended December 31, 2023, we had 33 customers, of which six were investment grade. For the year ended December 31, 2022, we had 39 customers, of which ten were investment grade.

Inflation Risks

Inflationary factors such as increases in the cost of our products and overhead costs may adversely affect our results of operations. Although we do not believe that inflation has had a material impact on our financial position or results of operations to date, a high rate of inflation in the future may have an adverse effect on our ability to maintain current levels of gross margin and selling, general and administrative expenses as a percentage of net revenue if the selling prices of our products do not increase with these increased costs.

Item 8. Financial Statements and Supplementary Data.

The following Consolidated Financial Statements are filed as part of this Annual Report:

Atlas Energy Solutions Inc.

[Report of Independent Registered Public Accounting Firm \(PCAOB ID No. 42\)](#)

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[Consolidated Balance Sheets as of December 31, 2023 and 2022](#)

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[Consolidated Statements of Operations for the Years ended December 31, 2023, 2022 and 2021](#)

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[Consolidated Statements of Stockholders' and Members' Equity and Redeemable Noncontrolling Interest for the Years ended December 31, 2023, 2022 and 2021](#)

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[Consolidated Statements of Cash Flows for the Years ended December 31, 2023, 2022 and 2021](#)

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[Notes to Consolidated Financial Statements](#)

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and the Board of Directors of Atlas Energy Solutions Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Atlas Energy Solutions Inc. (the Company) as of December 31, 2023 and 2022, the related consolidated statements of operations, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2023 and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2023 and 2022, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2023, in conformity with U.S. generally accepted accounting principles.

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/ Ernst & Young LLP

We have served as the Company's auditor since 2017.

Austin, Texas

February 27, 2024

Atlas Energy Solutions Inc.
Consolidated Balance Sheets
(In thousands, except share data)

	December 31, 2023	December 31, 2022
Assets		
Current assets:		
Cash and cash equivalents	\$ 210,174	\$ 82,010
Accounts receivable	71,170	73,341
Accounts receivable - related parties	—	1,051
Inventories	6,449	5,614
Spare part inventories	15,408	10,797
Prepaid expenses and other current assets	15,485	5,918
Total current assets	318,686	178,731
Property, plant and equipment, net	934,660	541,524
Finance lease right-of-use assets	424	19,173
Operating lease right-of-use assets	3,727	4,049
Other long-term assets	4,189	7,522
Total assets	\$ 1,261,686	\$ 750,999
Liabilities, redeemable noncontrolling interest, and stockholders' and members' equity		
Current liabilities:		
Accounts payable	\$ 60,882	\$ 31,645
Accounts payable - related parties	277	154
Accrued liabilities	28,458	30,630
Current portion of long-term debt	—	20,586
Other current liabilities	2,975	5,659
Total current liabilities	92,592	88,674
Long-term debt, net of discount and deferred financing costs	172,820	126,588
Deferred tax liabilities	121,529	1,906
Other long-term liabilities	6,921	22,474
Total liabilities	393,862	239,642
Commitments and contingencies (Note 8)		
Redeemable noncontrolling interest	—	—
Stockholders' / members' equity:		
Members' equity	—	511,357
Preferred stock, \$0.01 par value; 500,000,000 authorized; no shares issued and outstanding as of December 31, 2023	—	—
Old Atlas Class A Common Stock, \$0.01 par value; no shares authorized, issued or outstanding as of December 31, 2023	—	—
Old Atlas Class B Common Stock, \$0.01 par value; no shares authorized, issued or outstanding as of December 31, 2023	—	—
New Atlas Common Stock, \$0.01 par value, 1,500,000,000 shares authorized, 100,025,584 shares issued and outstanding as of December 31, 2023	1,000	—
Additional paid-in-capital	908,079	—
Accumulated deficit	(41,255)	—
Total stockholders' and members' equity	867,824	511,357
Total liabilities, redeemable noncontrolling interest and stockholders' and members' equity	\$ 1,261,686	\$ 750,999

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

Atlas Energy Solutions Inc.
Consolidated Statements of Operations
(In thousands, except per share data)

	Year Ended December 31,		
	2023	2022	2021
Product sales	\$ 468,119	\$ 408,446	\$ 142,519
Service sales	145,841	74,278	29,885
Total sales	613,960	482,724	172,404
Cost of sales (excluding depreciation, depletion and accretion expense)	260,396	198,918	84,656
Depreciation, depletion and accretion expense	39,798	27,498	23,681
Gross profit	313,766	256,308	64,067
Selling, general and administrative expense (including stock and unit-based compensation expense of \$7,409, \$678, and \$129, respectively.)	48,636	24,317	17,071
Operating income	265,130	231,991	46,996
Interest expense, net	(7,689)	(15,760)	(42,198)
Other income	430	2,631	291
Income before income taxes	257,871	218,862	5,089
Income tax expense	31,378	1,856	831
Net income	\$ 226,493	\$ 217,006	\$ 4,258
Less: Pre-IPO net income attributable to Atlas Sand Company, LLC	54,561		
Less: Net income attributable to redeemable noncontrolling interest	66,503		
Net income attributable to Atlas Energy Solutions, Inc.	<u>\$ 105,429</u>	<u> </u>	<u> </u>
Net income per common share			
Basic	\$ 1.50		
Diluted	\$ 1.48		
Weighted average common shares outstanding			
Basic	70,450		
Diluted	71,035		

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

Atlas Energy Solutions Inc.
Consolidated Statements of Stockholders' and Members' Equity and Redeemable Noncontrolling Interest
(in thousands, except per share data)

	Redeemable Noncontrolling Interest		Members' Equity Value		Old Atlas Class A		Old Atlas Class B		New Atlas Common Stock		Additional Paid-In-Capital	Accumulated Deficit	Stockholders' and Members' Equity
	Shares	Value	Shares	Value	Shares	Value	Shares	Value					
Balance at December 31, 2020	\$ —	\$ 331,697	—	\$ —	—	\$ —	—	\$ —	—	\$ —	\$ —	\$ —	\$ 331,697
Issuance of class A units	—	2,572	—	—	—	—	—	—	—	—	—	—	2,572
Issuance of class C units	—	10,041	—	—	—	—	—	—	—	—	—	—	10,041
Member distributions	—	(10,000)	—	—	—	—	—	—	—	—	—	—	(10,000)
Unit-based compensation expense	—	129	—	—	—	—	—	—	—	—	—	—	129
Net income	—	4,258	—	—	—	—	—	—	—	—	—	—	4,258
Balance at December 31, 2021	\$ —	\$ 338,697	—	\$ —	—	\$ —	—	\$ —	—	\$ —	\$ —	\$ —	\$ 338,697
Member distributions	—	(45,024)	—	—	—	—	—	—	—	—	—	—	(45,024)
Unit-based compensation expense	—	678	—	—	—	—	—	—	—	—	—	—	678
Net income	—	217,006	—	—	—	—	—	—	—	—	—	—	217,006
Balance at December 31, 2022	\$ —	\$ 511,357	—	\$ —	—	\$ —	—	\$ —	—	\$ —	\$ —	\$ —	\$ 511,357
Member distributions prior to IPO	—	(15,000)	—	—	—	—	—	—	—	—	—	—	(15,000)
Net income prior to IPO and Reorganization	—	54,561	—	—	—	—	—	—	—	—	—	—	54,561
Effect of Reorganization and reclassification to redeemable noncontrolling interest (Note 1)	771,345	(550,918)	39,148	391	42,852	429	—	—	—	(221,247)	—	—	(771,345)
Issuance of Common Stock in IPO, net of offering costs	—	—	18,000	180	—	—	—	—	—	291,056	—	—	291,236
Deferred tax liability arising from the IPO	—	—	—	—	—	—	—	—	—	(27,537)	—	—	(27,537)
Deferred tax liability arising from Up-C Simplification	—	—	—	—	—	—	—	—	—	(62,708)	—	—	(62,708)
Stock-based compensation	—	—	—	—	—	—	—	—	—	7,039	—	—	7,039
Net income after IPO and Reorganization	66,503	—	—	—	—	—	—	—	—	—	105,429	—	105,429
\$0.55/share dividend and unit distribution	(14,998)	—	—	—	—	—	—	—	—	(20,005)	(20,002)	—	(40,007)
Dividend equivalent rights (\$0.55 per share)	—	—	—	—	—	—	—	—	—	(421)	(296)	—	(717)
Other distributions to redeemable non-controlling interest unitholders	(7,158)	—	—	—	—	—	—	—	—	—	—	—	—
Redemption of operating units of Atlas Sand Operating, LLC for Old Atlas Class A Common Stock	(13,640)	—	594	6	(594)	(6)	—	—	—	13,640	—	—	13,640
Deferred tax liability arising from the redemption of operating units of Atlas Sand Operating, LLC for Old Atlas Class A Common Stock	—	—	—	—	—	—	—	—	—	(176)	—	—	(176)
Issuance of Common Stock upon vesting of RSUs, net of shares withheld for income taxes	—	—	25	—	—	—	—	—	—	—	—	—	—
Adjustment of redeemable noncontrolling interest to redemption amount	185,412	—	—	—	—	—	—	—	—	(59,026)	(126,386)	—	(185,412)
Effects of Up-C Simplification	(987,464)	—	(57,767)	(577)	(42,258)	(423)	100,026	1,000	—	987,464	—	—	987,464
Balance at December 31, 2023	\$ —	\$ —	—	\$ —	—	\$ —	100,026	\$ 1,000	\$ 908,079	\$ (41,255)	\$ 867,824	\$ —	\$ 867,824

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

Atlas Energy Solutions Inc.
Consolidated Statements of Cash Flows
(In thousands)

	Year Ended December 31,		
	2023	2022	2021
Operating activities:			
Net income	\$ 226,493	\$ 217,006	\$ 4,258
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation, depletion and accretion expense	41,634	28,617	24,604
Loss on extinguishment of debt	—	—	11,922
Amortization of debt discount	761	457	7,320
Amortization of deferred financing costs	337	442	739
Stock and unit-based compensation	7,409	678	129
Deferred income tax	29,201	(2)	360
Interest paid-in-kind through issuance of additional term loans	—	—	3,039
Repayment of paid-in-kind interest borrowings	—	—	(22,233)
Commodity derivatives gain	—	(1,842)	(55)
Settlements on commodity derivatives	—	2,137	—
Other	139	293	(105)
Changes in operating assets and liabilities:			
Accounts receivable	2,172	(44,207)	(17,626)
Accounts receivable - related party	868	(768)	(188)
Inventories	(835)	(2,415)	(364)
Spare part inventories	(4,639)	(4,239)	(617)
Prepaid expenses and other current assets	(9,959)	(2,030)	(1,175)
Other long-term assets	(1,450)	(6,549)	(596)
Accounts payable	5,198	7,881	5,744
Accounts payable - related parties	123	(464)	480
Deferred revenue	—	(2,000)	2,000
Accrued liabilities and other liabilities	1,575	13,017	3,720
Net cash provided by operating activities	299,027	206,012	21,356
Investing activities:			
Purchases of property, plant and equipment	(365,486)	(89,592)	(19,371)
Net cash used in investing activities	(365,486)	(89,592)	(19,371)
Financing Activities:			
Proceeds from equity issuances	—	—	12,613
Net proceeds from IPO	303,426	—	—
Payment of offering costs	(6,020)	—	—
Member distributions prior to IPO	(15,000)	(45,024)	(10,000)
Proceeds from term loan borrowings	—	—	178,200
Principal payments on term loan borrowings	(16,573)	(28,544)	(172,872)
Prepayment fee on 2021 Term Loan Credit Facility	(2,649)	—	—
Debt extinguishment cost	—	—	(4,514)
Issuance costs associated with debt financing	(4,397)	(233)	(660)
Payments under finance and capital leases	(2,001)	(1,010)	(423)
Dividends and distributions	(62,163)	—	—
Net cash provided by (used in) financing activities	194,623	(74,811)	2,344
Net increase in cash and cash equivalents	128,164	41,609	4,329
Cash and cash equivalents, beginning of period	82,010	40,401	36,072
Cash and cash equivalents, end of period	\$ 210,174	\$ 82,010	\$ 40,401
Supplemental cash flow information			
Cash paid during the period for:			
Interest	\$ 15,210	\$ 14,904	\$ 19,155
Taxes	\$ 11,403	\$ 468	\$ 14
Supplemental disclosure of non-cash investing activities:			
Property, plant and equipment in accounts payable and accrued liabilities	\$ 44,381	\$ 23,298	\$ 2,551
Asset retirement obligations incurred	\$ 1,374	\$ —	\$ —
Redeemable noncontrolling interest cumulative adjustment to redemption value	\$ 185,412	\$ —	\$ —
Finance lease assets acquired through debt	\$ 39,454	\$ —	\$ —
Finance lease liabilities converted to debt	\$ 42,795	\$ —	\$ —

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

Atlas Energy Solutions Inc.
Notes to Consolidated Financial Statements

Note 1 – Business and Organization

Atlas Energy Solutions Inc. (f/k/a New Atlas HoldCo. Inc.) (“New Atlas” and together with its subsidiaries “we,” “us,” “our,” or the “Company”) was formed on June 28, 2023, pursuant to the laws of the State of Delaware, and is the successor to AESI Holdings Inc. (f/k/a Atlas Energy Solutions Inc.) (“Old Atlas”), a Delaware corporation. New Atlas is a holding corporation and the ultimate parent company of Atlas Sand Company, LLC (“Atlas LLC”), a Delaware limited liability company formed on April 20, 2017. Atlas LLC is a producer of high-quality, locally sourced 100 mesh and 40/70 sand used as a proppant during the well completion process. Proppant is necessary to facilitate the recovery of hydrocarbons from oil and natural gas wells. One hundred percent of Atlas LLC’s sand reserves are located in Winkler and Ward Counties, Texas, within the Permian Basin and operations consist of proppant production and processing facilities, including two facilities near Kermit, Texas and a third facility near Monahans, Texas.

We are currently building a logistics platform with the goal of increasing the efficiency, safety and sustainability of the oil and natural gas industry within the Permian Basin. This will include the Dune Express, an overland conveyor infrastructure solution currently under construction, coupled with our growing fleet of fit-for-purpose trucks and trailers.

We sell products and services primarily to oil and natural gas exploration and production companies and oilfield services companies primarily under supply agreements and also through spot sales on the open market.

Initial Public Offering

On March 13, 2023, Old Atlas completed its initial public offering (the “IPO”) of 18,000,000 shares of Class A common stock, par value \$0.01 per share (the “Old Atlas Class A Common Stock”) at a price of \$18.00 per share. The IPO generated \$324.0 million of gross proceeds and net proceeds of approximately \$291.2 million. The gross proceeds were offset by \$20.6 million of underwriting discounts and commissions, \$5.9 million of current offering costs in 2023, and \$6.3 million in offering costs paid in 2022 that were recorded to other long-term assets on the consolidated balance sheets as of December 31, 2022. The material terms of the IPO are described in Old Atlas’s final prospectus, dated March 8, 2023 and filed with the Securities and Exchange Commission (“SEC”) pursuant to Rule 424(b)(4) of the Securities Act of 1933, as amended (the “Securities Act”), on March 10, 2023 (the “Final IPO Prospectus”).

Reorganization

Pursuant to a master reorganization agreement dated March 8, 2023, by and among Old Atlas, Atlas Sand Management Company, LLC, a Texas limited liability company (“ASMC”), Atlas LLC, Atlas Sand Holdings, LLC, a Delaware limited liability company (“Holdings”), Atlas Sand Operating, LLC, a Delaware limited liability company (“Atlas Operating”), Atlas Sand Holdings II, LLC, a Delaware limited liability company (“Holdings II”), Atlas Sand Management Company II, LLC, a Delaware limited liability company (“ASMC II”), and Atlas Sand Merger Sub, LLC, a Delaware limited liability company (“Merger Sub”), Old Atlas and the parties thereto completed certain restructuring transactions (the “Reorganization”) in connection with the IPO. As part of the Reorganization:

- Merger Sub merged with and into Atlas LLC, with Atlas LLC surviving as a wholly-owned subsidiary of Atlas Operating;
- Holdings, Holdings II and ASMC II were formed (collectively with ASMC, the “HoldCos”), through which certain holders who previously held membership interests in Atlas LLC (the “Legacy Owners”) were issued the membership interests in Atlas Operating, as represented by a single class of common units (“Operating Units”);
- certain Legacy Owners, through the HoldCos, transferred all or a portion of their Operating Units and voting rights, as applicable, in Atlas Operating to Old Atlas in exchange for an aggregate of 39,147,501 shares of Old Atlas Class A Common Stock and, in the case of Legacy Owners that continued to hold Operating Units through the HoldCos, an aggregate of 42,852,499 shares of Class B Common Stock, par value \$0.01 per share, of Old Atlas (the “Old Atlas Class B Common Stock,” and together with the Old Atlas Class A Common Stock, the “Old Atlas Common Stock”), so that such Legacy Owners that continued to hold Operating Units also held, through the HoldCos, one share of Old Atlas Class B Common Stock for each Operating Unit held by them immediately following the Reorganization;
- the 1,000 shares of Old Atlas Class A Common Stock issued to Atlas LLC at the formation of Old Atlas were redeemed and canceled for nominal consideration; and
- Old Atlas contributed all of the net proceeds received by it in the IPO to Atlas Operating in exchange for a number of Operating Units equal to the number of shares of Old Atlas Class A Common Stock outstanding after the IPO, and Atlas Operating further contributed the net proceeds received to Atlas LLC.

As a result of the Reorganization, (i) Old Atlas's sole material asset consisted, and still consists, of Operating Units, (ii) Atlas Operating's sole material asset consisted, and still consists, of 100% of the membership interests in Atlas LLC and (iii) Atlas LLC owned, and still owns, all of the Company's operating assets. Old Atlas is the managing member of Atlas Operating and is responsible for all operational, management and administrative decisions relating to Atlas LLC's business and consolidates the financial results of Atlas LLC and its subsidiaries.

As a result of the IPO and Reorganization:

- the Legacy Owners collectively owned all of the outstanding shares of Old Atlas Class B Common Stock and 39,147,501 shares of Old Atlas Class A Common Stock, collectively representing 82.0% of the voting power and 68.5% of the economic interest of Old Atlas (and 82.0% of the economic interest of Atlas LLC, including both direct and indirect ownership interests) at the closing of the IPO and Reorganization;
- Old Atlas owned an approximate 57.1% interest in Atlas Operating; and
- the Legacy Owners that continued to hold Operating Units collectively owned an approximate 42.9% interest in Atlas Operating.

On March 13, 2023, the date on which the Company closed the IPO, a corresponding deferred tax liability of approximately \$27.5 million was recorded associated with the differences between the tax and book basis of the investment in Atlas LLC. The offset of the deferred tax liability was recorded to additional paid-in capital. As there was no change in control of Atlas Operating, Atlas LLC, or the businesses or subsidiaries held by Atlas LLC as a result of the Reorganization, purchase accounting was not required and the Legacy Owners' interests in Operating Units were recognized as a noncontrolling interest in Atlas Operating.

On September 13, 2023, we distributed the Operating Units and shares of Old Atlas Common Stock previously held by the HoldCos to the Legacy Owners in accordance with the distribution provisions of each respective HoldCo operating agreement. Immediately following the distribution, the Legacy Owners held shares of Old Atlas Class A Common Stock or Old Atlas Class B Common Stock (and corresponding Operating Units) directly.

Up-C Simplification

On October 2, 2023, Old Atlas and the Company completed the previously announced Up-C Simplification (as defined below) contemplated by the Master Reorganization Agreement (the "Master Reorganization Agreement"), dated as of July 31, 2023, by and among the Company, Old Atlas, Atlas Operating, AESI Merger Sub Inc., a Delaware corporation ("PubCo Merger Sub"), Atlas Operating Merger Sub, LLC, a Delaware limited liability company ("Opco Merger Sub" and, together with PubCo Merger Sub, the "Merger Subs"), and Holdings, in order to, among other things, reorganize under a new public holding company (the "Up-C Simplification").

Pursuant to the Master Reorganization Agreement, (a) PubCo Merger Sub merged with and into Old Atlas (the "PubCo Merger"), as a result of which (i) each share of Old Atlas Class A Common Stock then issued and outstanding was exchanged for one share of Common Stock of New Atlas, par value \$0.01 per share (the "New Atlas Common Stock"), (ii) all of the shares of Old Atlas Class B Common Stock then issued and outstanding were surrendered and cancelled for no consideration and (iii) Old Atlas survived the PubCo Merger as a direct, wholly-owned subsidiary of the Company; and (b) Opco Merger Sub merged with and into Atlas Operating (the "Opco Merger" and, together with the PubCo Merger, the "Mergers"), as a result of which (i) each Operating Unit then issued and outstanding, other than those Operating Units held by Old Atlas, was exchanged for one share of New Atlas Common Stock and (ii) Atlas Operating became a wholly-owned subsidiary of New Atlas.

In connection with the Up-C Simplification:

- each share of Old Atlas Class A Common Stock issued and outstanding immediately prior to the effective time of the Mergers (the "Effective Time") was exchanged for one share of New Atlas Common Stock and the holders of Old Atlas Class A Common Stock became stockholders of New Atlas;
- all of the Old Atlas Class B Common Stock issued and outstanding immediately prior to the Effective Time was surrendered and cancelled for no consideration;
- each Operating Unit issued and outstanding immediately prior to the Effective Time, other than Operating Units held by Old Atlas, was exchanged for one share of New Atlas Common Stock, and the holders of such Operating Units became stockholders of New Atlas;
- Old Atlas continues to hold all of the issued and outstanding Operating Units it held as of immediately prior to the Effective Time, such Operating Units were otherwise unaffected by the Up-C Simplification (including the Opco Merger), and such Operating Units, together with the Operating Units received by New Atlas in connection with the Opco Merger, constitute all of the Operating Units currently issued and outstanding;
- Old Atlas became a direct, wholly-owned subsidiary of New Atlas, and all of the Old Atlas Class A Common Stock then held by New Atlas was recapitalized into a single share;

•as of the Effective Time, New Atlas assumed (a) the Atlas Energy Solutions Inc. Long Term Incentive Plan (the “LTIP”), (b) all awards of restricted stock units and performance share units, in each case, whether vested or unvested, that were then outstanding under the LTIP, (c) the grant notices and agreements evidencing such awards, and (d) the then remaining unallocated share reserve issuable under the LTIP; and the terms and conditions that were in effect immediately prior to the Up-C Simplification under each outstanding award assumed by New Atlas continue in full force and effect after the Up-C Simplification, with certain exceptions to reflect the completion of the Up-C Simplification, such as each award denominated with reference to shares of New Atlas Common Stock instead of Old Atlas Class A Common Stock and the performance share unit awards being in reference to performance of New Atlas instead of performance of Old Atlas (with respect to the portion of the applicable performance period following the Up-C Simplification);

•as of the Effective Time, (a) New Atlas assumed Old Atlas’s existing Management Change in Control Severance Plan (and each participation agreement thereunder that was then outstanding) and (b) the terms and conditions of the director compensation program applicable to members of the board of directors of Old Atlas (and any committees thereof) were applied instead to members of the board of directors of New Atlas (and any committees thereof) (and any portion of such compensation to be granted in the form of equity-based awards will be granted in awards denominated with reference to shares of New Atlas Common Stock instead of Old Atlas Class A Common Stock); and

•Old Atlas changed its name from “Atlas Energy Solutions Inc.” to “AESI Holdings Inc.,” and New Atlas changed its name from “New Atlas HoldCo Inc.” to “Atlas Energy Solutions Inc.” New Atlas was approved to have the shares of New Atlas Common Stock listed on the New York Stock Exchange under the ticker symbol “AESI,” the trading symbol previously used by Old Atlas.

After completion of the Up-C Simplification, New Atlas replaced Old Atlas as the publicly held entity and, through its subsidiaries, conducts all of the operations previously conducted by Old Atlas, and Old Atlas remains the managing member of Atlas Operating.

The foregoing description is not complete and is qualified in its entirety by reference to the Master Reorganization Agreement, a copy of which is filed as Exhibit 2.2 to this Annual Report on Form 10-K (this “Annual Report”).

The Up-C Simplification was a common control transaction; therefore, the redeemable noncontrolling interest was acquired as an equity transaction. The redeemable noncontrolling interest was adjusted to the maximum redemption amount based on the 10-day volume-weighted average closing price of shares of Old Atlas Class A Common Stock at the redemption date. The carrying amount of the redeemable noncontrolling interest was reclassified to reflect the change in the Company’s ownership interest with an offsetting entry to additional paid-in capital. On October 2, 2023, the date the Up-C Simplification was completed, a corresponding deferred tax liability of approximately \$62.7 million was recorded associated with the exchange of the redeemable noncontrolling interest in Old Atlas for shares of New Atlas Common Stock. The offset of the deferred tax liability was recorded to additional paid-in capital. As there was no change in control of Old Atlas, or the businesses or subsidiaries held by Old Atlas as a result of the Up-C Simplification, purchase accounting was not required and the carrying amount of the redeemable noncontrolling interest was removed to reflect the change in the Company’s ownership interest.

Note 2—Summary of Significant Accounting Policies

Basis of Presentation

The accompanying consolidated financial statements (the “Financial Statements”) have been prepared in accordance with generally accepted accounting principles in the United States of America (“GAAP”) and SEC requirements. All adjustments necessary for a fair presentation of the Financial Statements have been included. Such adjustments are of a normal, recurring nature. These consolidated financial statements include the accounts of New Atlas, Old Atlas, Atlas Operating, Atlas LLC, and Atlas LLC’s wholly-owned subsidiaries: Atlas Sand Employee Company, LLC; Atlas OLC Employee Company, LLC; Atlas Construction Employee Company, LLC; Atlas Sand Employee Holding Company, LLC; Fountainhead Logistics Employee Company, LLC; Atlas Sand Construction, LLC; OLC Kermit, LLC; OLC Monahans, LLC; Fountainhead Logistics, LLC; Fountainhead Transportation Services, LLC; and Fountainhead Equipment Leasing, LLC.

Reorganization

As discussed in Note 1 - *Business and Organization*, as a result of our IPO and the Reorganization and prior to the Up-C Simplification, Old Atlas became the managing member of Atlas Operating and consolidated entities in which it had a controlling financial interest through the end of the reporting period. The Reorganization was considered a transaction between entities under common control. As a result, the financial statements for periods prior to the IPO and the Reorganization have been adjusted to combine the previously separate entities for presentation purposes. However, Old Atlas and Atlas Operating had no operations or assets and liabilities prior to our IPO. As such, for periods prior to the completion of our IPO, the consolidated financial statements represent the historical financial position and results of operations of Atlas LLC and its subsidiaries. For periods after the completion of our IPO through the end of the reporting period, the financial position and results of operations include those of Old Atlas and New Atlas.

Up-C Simplification

As discussed in Note 1 - *Business and Organization*, as a result of the Up-C Simplification, New Atlas replaced Old Atlas as the publicly held entity and, through its subsidiaries, conducts all of the operations previously conducted by Old Atlas, and Old Atlas remains the managing member of Atlas Operating. The Up-C Simplification was considered an acquisition of noncontrolling interest transaction between entities under common control. As such, the consolidated financial position and results of operations of the Company are included in the consolidated financial statements of New Atlas on the same basis as previously presented except for the acquisition of noncontrolling interest which was accounted for as an equity transaction.

Consolidation

The Financial Statements include the accounts of the Company and wholly-owned subsidiaries. All intercompany transactions and accounts have been eliminated in consolidation.

Use of Estimates

The preparation of Consolidated Financial Statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the related disclosure of contingent assets and liabilities at the date of the Consolidated Financial Statements and the reported amounts of revenues and expenses during the reporting period. Significant estimates used in the preparation of these financial statements include, but are not limited to: the proppant reserves and their impact on calculating the depletion expense under the units-of-production method; the depreciation and amortization associated with property, plant and equipment; stock-based and unit-based compensation; asset retirement obligations; and certain liabilities. The Company bases its estimates on historical experience and on various assumptions that are believed to be reasonable under the circumstances. Actual results could differ from those estimates.

Cash and Cash Equivalents

Cash and cash equivalents consist of all highly liquid investments that are readily convertible into cash and have original maturities of three months or less when purchased. As of December 31, 2023, we have deposits of \$131.1 million in an Insured Cash Sweep (“ICS”) Deposit Placement Agreement within IntraFi Network LLC facilitated by our bank. The ICS program provides the Company with access to FDIC insurance for our total cash held within the ICS. We had an additional \$26.4 million in 1-month and 2-month United States Treasury Bills which are fully backed by the United States as of December 31, 2023. We place our remaining cash deposits with high-credit-quality financial institutions. At times, a portion of our cash may be uninsured or in deposit accounts that exceed or are not covered under the Federal Deposit Insurance Corporation limit.

Concentrations of Credit Risk

Throughout 2023 and 2022, the Company has maintained cash balances on deposit and time deposits with financial institutions in excess of federally insured amounts; however, all these financial institutions hold an investment-grade rating by one or more major rating agencies.

For the year ended December 31, 2023, two customers comprised 25% and 10% of the Company’s sales. For the year ended December 31, 2022, one customer comprised 12% of the Company’s sales. For the year ended December 31, 2021, one customer comprised 13% of the Company’s sales.

Accounts Receivable and Allowance for Credit Losses

Accounts receivable are recorded at cost when earned and represent claims against third parties that will be settled in cash. These receivables generally do not bear interest. The carrying value of our receivables, net of allowance for credit losses, represents the estimated collectable amount. If events or changes in circumstances indicate specific receivable balances may be impaired, further consideration is given to our ability to collect those balances and the allowance is adjusted accordingly. We perform credit evaluations of new customers, and sometimes require deposits and prepayments, to mitigate credit risk. When it is probable that all or part of an outstanding balance will not be collected, we establish an allowance for credit losses. The Company recognized \$0.1 million of bad debt expense during the year ended December 31, 2021 as the Company determined the bad debt was not collectable and the allowance for doubtful accounts was written off. For the year ended December 31, 2022, the Company did not recognize bad debt expense during the year and had no allowance for doubtful accounts.

On January 1, 2023, we adopted Accounting Standards Update (“ASU”) 2016-13, Financial Instruments - Credit Losses (Topic 326) - Measurement of Credit Losses on Financial Instruments, which replaced the prior incurred loss impairment model with an expected credit loss impairment model for financial instruments, including accounts receivable. The adoption of ASU 2016-13 did not result in a material cumulative-effect adjustment to retained earnings on January 1, 2023.

We are exposed to credit losses primarily through sales of products and services. We analyze accounts receivable on an individual customer and overall basis through review of historical collection experience and current aging status of our customer accounts. We also consider the financial condition and economic environment of our customers in evaluating the need for an allowance. As of December 31, 2023, we had de minimis allowance for credit losses, which is included in accounts receivable on the consolidated balance sheets, and recognized de minimis bad debt expense during the year.

As of December 31, 2023, four customers represented 19%, 16%, 12%, and 11% of the Company's outstanding accounts receivable balance. As of December 31, 2022, two customers represented 19% and 13% of the Company's outstanding accounts receivable balance.

Accounts Receivable—Related Parties

These amounts represent reimbursement of vendor payments from related parties and outstanding billings with a customer.

Inventories

Inventories include raw sand stockpiles, in-process product, and finished product available for shipment. Inventories are valued at the lower of cost or net realizable value. Cost is determined using a weighted average cost method. Production costs include direct excavation costs, production personnel and benefits costs, processing costs, rental equipment costs, other costs directly attributable to plant operations, depreciation, and depletion.

Spare Part Inventories

Spare part inventories include critical spares, materials and supplies. Spare part inventories are valued at the lower of cost or net realizable value. Cost is determined using a weighted average cost method. For both years ended December 31, 2023 and 2022, there was \$0.7 million in spare parts inventory reserve.

Prepaid Expenses and Other Current Assets

Prepaid expenses consist primarily of prepaid federal tax payments, prepaid software fees, prepaid rent, delay rental payments on leased land, insurance, trade show fees and sales events. These expenses are recognized over the contract period as events occur or when the future benefit is realized. As of December 31, 2023 and 2022, prepaid expenses were \$15.4 million and \$5.2 million, respectively. Other current assets consist of certain short-term supplier deposits for leased equipment, which were de minimis and \$0.7 million as of December 31, 2023 and 2022, respectively.

Property, Plant and Equipment, Including Depreciation and Depletion

Property, plant and equipment are recorded at cost and depreciated over their estimated useful lives using either the straight-line method or the units of production method. Construction in progress is comprised of assets which have not been placed into service and is not depreciated until the related assets or improvements are ready to be placed into service.

Interest incurred during the construction of plant facilities was capitalized. Capitalized interest was recorded within plant facilities associated with productive, depletable properties, until the plant facilities were placed into service, and is being amortized using the units of production method. The Company did not capitalize interest for the years ended December 31, 2023, 2022 and 2021.

Costs of improvements that extend economic life or improve service potential are capitalized and depreciated over the remaining useful life of the asset, with routine repairs and maintenance expensed as incurred.

Fixed assets are carried at historical cost. Fixed assets, other than plant facilities associated with productive, depletable properties, are depreciated using the straight-line method over the estimated useful lives of the assets as follows:

Plant facilities and equipment	1 – 40 years
Furniture and office equipment	3 – 15 years
Computer and network equipment	3 – 7 years
Buildings and leasehold improvements	5 – 40 years
Logistic equipment	4 – 7 years

Mine development project costs are capitalized once the deposit is classified as a proven and probable reserve. Mine development costs include engineering, mineralogical studies, drilling and other related costs to develop the mine and remove the overburden to initially expose the mineral and allow for the construction of an access way. Exploration costs are expensed as incurred and classified as exploration expense.

Mining property and development costs are amortized using the units of production method on estimated recoverable tonnage, which equals estimated proven and probable reserves. The impact to reserve estimates is recognized on a prospective basis. Drilling and related costs are capitalized for deposits where proven and probable reserves exist. These activities are directed at obtaining additional information on the deposit or converting non-reserve minerals to proven and probable reserves, with the benefit being realized over a period greater than one year.

Impairment or Disposal of Property, Plant and Mine Development

The Company periodically evaluates whether current events or circumstances indicate that the carrying value of our property, plant and equipment assets may not be recoverable. If circumstances indicate that the carrying value may not be recoverable, the Company estimates future undiscounted net cash flows using estimates, including but not limited to estimates of proven and probable sand reserves, estimated future sales prices (considering historical and current prices, price trends and related factors), operating costs and anticipated capital expenditures. If the undiscounted cash flows are less than the carrying value of the assets, the Company recognizes an impairment loss equal to the amount by which the carrying value exceeds the fair value of the assets.

The recoverability of the carrying value of the Company's mining property and development costs are dependent upon the successful development and commercial production of the Company's mineral deposit and the related processing facilities. The Company's evaluation of mineral properties for potential impairment primarily includes evaluating changes in the mineral reserves, or the underlying estimates and assumptions, including estimated production costs. Assessing the economic feasibility requires certain estimates including the prices of products to be produced and processing recovery rates, as well as operating and capital costs.

Deferred Offering Costs

Deferred offering costs consisted primarily of accounting, legal, and other fees related to our IPO. The deferred offering costs were offset against the proceeds from the offering. See Note 1 – *Business and Organization - Initial Public Offering* section for more details. As of December 31, 2023 and 2022, the Company had no deferred offering costs and \$6.3 million of deferred offering costs within other long-term assets on the consolidated balance sheets, respectively.

Asset Retirement Obligations

In accordance with ASC 410-20, Asset Retirement Obligations, the Company records a liability for asset retirement obligations at the fair value of the estimated costs to retire a tangible long-lived asset at the time the liability is incurred, when there is a legal obligation to incur costs to retire the asset and when a reasonable estimate of the fair value of the obligation can be made. The Company has asset retirement obligations with respect to certain assets due to various contractual obligations to clean and/or dispose of those assets at the time they are retired.

A liability for the fair value of an asset retirement obligation, with a corresponding increase to the carrying value of related long-lived assets, is recognized at the time of an obligating event. The asset is depreciated using the straight-line method, and the discounted liability is increased through accretion over the expected timing of settlement.

The estimated liability is based on third-party estimates of costs to abandon, including estimated economic lives and external estimates as to the cost to bring the land to a state required by the lease agreements. The Company utilized a discounted rate reflecting management's best estimate of the credit-adjusted risk-free rate. Revisions to the liability could occur due to changes in the estimated costs, changes in the economic life or if federal or state regulators enact new requirements regarding the abandonment. Accretion expense, which was \$0.1 million for each years ended December 31, 2023, 2022 and 2021, is recorded on the consolidated statement of operations in depreciation, depletion and accretion expense. The asset retirement obligation is recorded within other long-term liabilities on the consolidated balance sheet.

Changes in the asset retirement obligations are as follows (in thousands):

	For the Year Ended December 31,	
	2023	2022
Beginning Balance	\$ 1,245	\$ 1,179
Additions to liabilities	1,374	—
Accretion expense	86	66
Ending Balance	<u>\$ 2,705</u>	<u>\$ 1,245</u>

Deferred Debt Discount and Financing Costs

We defer costs directly associated with acquiring third-party financing, primarily loan origination costs and related professional expenses. Debt issuance costs associated with the 2023 Term Loan Credit Facility (as defined below under Note 6- *Leases*), the 2021 Term Loan Credit Facility (as defined below under Note 7- *Debt*), and the 2018 Term Loan Credit Facility (as defined below under Note 7- *Debt*) are deferred and amortized using the effective interest rate method over the life of the associated third-party debt financing. Deferred financing costs associated with the 2023 ABL Credit Facility (as defined below under Note 7- *Debt*) and the 2018 ABL Credit Facility (as defined below under Note 7- *Debt*) are amortized on a straight-line basis over the life of the agreement. Deferred financing costs are reflected as a direct deduction from the carrying amount of the related debt obligation on the Company's consolidated balance sheets. Interest expense associated with the amortization of deferred financing costs was \$0.3 million, \$0.4 million, and \$0.7 million for the years ended December 31, 2023, 2022 and 2021, respectively. See Note 7 – *Debt* for more information.

Our debt discounts are reflected as a direct reduction from the carrying amount of the debt obligation on the Company's consolidated balance sheets. Such costs are amortized to interest expense using the effective interest method. The Company recognized \$0.8 million, \$0.5 million, and \$7.3 million of interest expense associated with the amortization of the debt discounts for the years ended December 31, 2023, 2022 and 2021, respectively. See Note 7 – *Debt* for more information.

Fair Value of Financial Instruments

Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Fair value is estimated by applying the following hierarchy, which prioritizes the inputs used to measure fair value into three levels and bases the categorization within the hierarchy upon the lowest level of input that is available and significant to the fair value measurement:

Level 1—Quoted prices in active markets for identical assets or liabilities.

Level 2—Observable inputs other than quoted prices in active markets for identical assets and liabilities, quoted prices for identical or similar assets or liabilities in inactive markets or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

Level 3—Inputs that are generally unobservable and typically reflect management's estimate of assumptions that market participants would use in pricing the asset or liability.

The amounts reported in the balance sheets as current assets or liabilities, including cash and cash equivalents, accounts receivable, spare parts inventories, inventories, prepaid expenses and other current assets, accounts payable, accrued liabilities and deferred revenues approximate fair value due to the short-term maturities of these instruments. The Company's policy is to recognize transfers between levels at the end of the period. This disclosure does not impact the Company's financial position, results of operations or cash flows. As of the dates indicated, the Company's long-term debt consisted of the following (in thousands):

	At December 31, 2023		At December 31, 2022		Valuation Technique
	Carrying Value	Fair Value	Carrying Value	Fair Value	
Financial liabilities					
Outstanding principal amount of the 2021 Term Loan Credit Facility	\$ —	\$ —	\$ 147,174	\$ 146,837	Level 2 – Market Approach
Outstanding principal amount of the 2023 Term Loan Credit Facility	\$ 172,820	\$ 182,446	\$ —	\$ —	Level 2 – Market Approach

Our 2021 Term Loan Credit Facility (as defined below under Note 7- *Debt*) bears interest at a fixed rate of 8.47%, where its fair value will fluctuate based on changes in interest rates and credit quality. On July 31, 2023, Atlas LLC entered into the 2023 Term Loan Credit Facility (as defined below under Note 6- *Leases*). The proceeds from the 2023 Term Loan Credit Facility were used to repay outstanding indebtedness under our previous 2021 Term Loan Credit Facility. The 2023 Term Loan Credit Facility bears interest at a fixed rate of 9.50%. As of December 31, 2022 and 2023, the fair value of long-term debt has been determined by discounting the future cash flows using current market interest rates for similar financial instruments. These inputs are not quoted prices in active markets, but they are either directly or indirectly observable; therefore, they are classified as Level 2 inputs.

Leases

The Company leases office space, equipment, and vehicles under non-cancellable agreements. The Company's leases may include options to extend or renew at the Company's discretion. The measurement of the lease term includes options to extend or renew when it is reasonably certain the Company will exercise those options. Lease assets and liabilities are recognized at the commencement date based on the present value of minimum lease payments over the lease term. To determine the present value of future minimum lease payments, the Company uses the implicit rate when readily determinable; however, certain leases do not provide an implicit rate. Therefore, to determine the present value of minimum lease payments, the Company uses the incremental borrowing rate based on the information available at the commencement date of the lease. The Company's finance lease agreements typically include an interest rate that is used to determine the present value of future lease payments. Short-term operating leases with an initial term of 12 months or less are not recorded on our balance sheet. Minimum lease payments are expensed on a straight-line basis over the lease term, including reasonably certain renewal options.

The Company periodically evaluates whether current events or circumstances indicate that the carrying value of our right-of-use assets exceeds fair value. If such a review should indicate that the carrying amount of right-of-use asset is not recoverable, the Company will reduce the carrying amount of such assets to fair value.

Environmental Costs and Other Contingencies

The Company recognizes liabilities for environmental and other contingencies when there is an exposure that indicates it is both probable that a liability has been incurred and the amount of loss can be reasonably estimated. Where the most likely outcome of a contingency can be reasonably estimated, the Company accrues a liability for that amount. Where the most likely outcome cannot be estimated a range of potential losses is established and, if no one amount in that range is more likely than any other, the amount at the low end of that range is accrued.

The Company records liabilities for environmental contingencies at the undiscounted amounts on the consolidated balance sheets as accrued liabilities and other liabilities when environmental assessments indicate that remediation efforts are probable, and costs can be reasonably estimated. Estimates of the liabilities are based on currently available facts and presently enacted laws and regulations, taking into consideration the likely effects of other societal and economic factors. These estimates are subject to revision in future periods based on actual costs or new circumstances. The Company capitalizes costs that benefit future periods and recognizes a current period charge in operations and maintenance expenses when clean-up efforts do not benefit future periods.

The Company evaluates potential recoveries of amounts from third parties, including insurance coverage, separately from the liability. Recovery is evaluated based on the solvency of the third party, among other factors. When recovery is assured, the Company records and reports an asset separately from the associated liability on the consolidated balance sheets.

Management is not aware of any environmental or other contingencies that would have a material effect on the consolidated financial statements for the years ended December 31, 2023, 2022 and 2021.

Revenues

Under ASC Topic 606-Revenue from Contracts with Customers ("ASC 606"), revenue recognition is based on the transfer of control, or the customer's ability to benefit from the services and products in an amount that reflects the consideration expected to be received in exchange for those services and products. In recognizing revenue for products and services, the transaction price is determined from sales orders or contracts with customers.

The Company generates revenues from the sale of product that customers purchase for use in the oil and gas industry. Revenues are derived from product sold to customers under supply agreements, whose terms can extend for over one year, and from spot sales through individual purchase orders executed at prevailing market rates. The Company's product revenues are primarily a function of the price per ton realized and the volumes sold. Pricing structures under the supply agreements are, in certain cases, subject to certain contractual adjustments and consist of a combination of negotiated pricing and fixed pricing. These arrangements may undergo periodic negotiations regarding pricing and volume requirements, which may occur in volatile market conditions.

The Company generates service revenue by providing transportation, storage solutions and contract labor services to companies in the oil and gas industry. Transportation services typically consist of transporting product from the plant facilities to the wellsite. The amounts invoiced reflect the transportation services rendered. The amounts invoiced for storage solutions and contract labor services reflect the amount of time these services were utilized in the billing period. Transportation, storage solutions and contract labor services are contracted through work orders executed under established pricing terms.

The Company recognizes revenue for product at a point in time following the transfer of control and satisfaction of the performance obligation of such items to the customer, under ASC 606, which typically occurs upon customer pick-up at the facilities. The Company recognizes revenue for services when services are rendered to the customer and the performance obligation is satisfied. The Company's standard collection terms are generally 30 days, with certain customer payment terms extending up to 60 days.

Certain of the Company's contracts contain shortfall provisions that calculate agreed upon fees that are billed when the customer does not meet the minimum purchases over a period of time defined in each contract and when collectability is reasonably certain. As the Company does not have the ability to predict customers' orders over the period, there are constraints around the ability to recognize the variability in consideration related to this condition. The Company did not recognize shortfall revenue for the years ended December 31, 2023, 2022 and 2021.

All of the Company's revenue is generated in Texas and New Mexico. Revenue is disaggregated by product and service sales, no further disaggregation of revenue information is provided.

The Company has elected to use the ASC 606 practical expedients, pursuant to which it has excluded disclosures of transaction prices allocated to remaining performance obligations and when it expects to recognize such revenue. The remaining performance obligations are primarily comprised of unfulfilled contracts to deliver product, most of which hold a remaining duration of less than one year, and of which ultimate transaction prices will be allocated entirely to the unfulfilled contracts. The Company's transaction prices under these contracts may be impacted by market conditions and potential contract negotiations, which have not yet been determined, and are therefore variable in nature.

The Company occasionally receives prepayments from customers for future deliveries of product. These prepayments represent consideration that is unconditional for which the Company has yet to transfer title to the product. Amounts received from customers in advance of product deliveries are recorded as contract liabilities referred to as deferred revenues and are recognized as revenue upon delivery of the product. The Company did not recognize any deferred revenue on the Company's consolidated balance sheets as of years ended December 31, 2023 and 2022.

Unit-Based Compensation

The Company awards incentive units to members of management, consultants and employees as incentive compensation. The Company accounts for these awards under the measurement and recognition provisions of Accounting Standards Codification ("ASC") 718, Compensation - Stock Compensation. The Company accounts for unit-based compensation by amortizing the fair value of the units, which is determined at the grant date, over the applicable vesting period for each tranche of the award using a graded vesting methodology.

The Company accounts for forfeitures as they occur and reverses any previously recognized unit-based compensation expense for the unvested portion of the awards that were forfeited. Unit-based compensation expense is recognized as selling, general and administrative expense on the Company's consolidated statements of operations.

Stock-Based Compensation

We account for stock-based compensation, including grants of incentive units, restricted stock awards, time-based restricted stock units and performance share units, under the measurement and recognition provisions of Accounting Standards Codification ("ASC") 718, Compensation - Stock Compensation ("ASC 718"). We account for stock and unit-based compensation by amortizing the fair value of the stock or units, which is determined at the grant date, on a straight-line basis unless the tranche method is required.

We account for forfeitures as they occur and reverse any previously recognized stock or unit-based compensation expense for the unvested portion of the awards that were forfeited. The number of forfeited shares shall again be available for purposes of awards under the LTIP. Stock-based compensation expense is recognized as selling, general and administrative expense on the Company's consolidated statements of operations.

Earnings Per Share

We use the treasury stock method to determine the potential dilutive effect of outstanding restricted stock units and performance share units. We evaluated the potential dilutive effect of Old Atlas Class B Common Stock using the "if-converted" method, noting conversion of Old Atlas Class B Common Stock to Old Atlas Class A Common Stock would not have a dilutive impact to earnings per share. Each share of Old Atlas Class B Common Stock was issued in conjunction with and only as a consequence of the issuance by Atlas Operating of an Operating Unit to a securityholder other than Old Atlas. Old Atlas was a holding company the only assets of which were equity interests in Atlas Operating. Prior to the Up-C Simplification, the earnings of Atlas Operating per unit were attributable to Old Atlas and the other Legacy Owners, as the holders of the outstanding Operating Units. Because each holder of Operating Units other than Old Atlas also held one share of Old Atlas Class B Common Stock, and because Old Atlas consolidated the results of operations of Atlas Operating, the earnings per Operating Unit attributable to the Legacy Owners for the period prior to the Up-C Simplification were derivatively attributable to the corresponding shares of Old Atlas Class B Common Stock held by such Legacy Owners. For that reason, when a Legacy Owner determined to exercise its Redemption Right (as defined below in Note 9 - *Stockholders' Equity*) and exchange an Operating Unit (and corresponding share of Old Atlas Class B Common Stock), for a share of Old Atlas Class A Common Stock, there was not a dilutive impact to the earnings per share of the Old Atlas Class A Common Stock.

In connection with the Up-C Simplification, each Operating Unit issued and outstanding immediately prior to the effective time of the Mergers (the “Effective Time”), other than Operating Units held by Old Atlas, was exchanged for one share of New Atlas Common Stock, the holders of such Operating Units became stockholders of New Atlas, and all of the Old Atlas Class B Common Stock issued and outstanding immediately prior to the Effective Time was surrendered and cancelled for no consideration. This exchange did not have a dilutive impact on the fourth quarter 2023 earnings per share.

The presentation of earnings per share for the periods prior to the IPO is not meaningful and only earnings per share for periods subsequent to the IPO are presented herein. See Note 12 – *Earnings Per Share* for additional information.

Redeemable Noncontrolling Interest

Prior to the Up-C Simplification, discussed in Note 1- *Business and Organization*, we accounted for the Legacy Owners’ historical 42.2% economic interest in Atlas Operating through ownership of Operating Units as redeemable noncontrolling interest. The redeemable noncontrolling interest was recognized at the higher of (1) its initial fair value plus accumulated earnings associated with the redeemable noncontrolling interest or (2) the redemption value as of the balance sheet date. The redemption amount was based on the 10-day volume-weighted average closing price of shares of Old Atlas Class A Common Stock at the end of the reporting period. Changes in the redemption value were recognized immediately as they occurred, as if the end of the reporting period was also the redemption date for the instrument, with an offsetting entry to retained earnings, or additional paid-in capital in the absence of retained earnings and further to accumulated deficit in the absence of additional paid in capital.

In connection with the Up-C Simplification, each Operating Unit issued and outstanding immediately prior to the Effective Time, other than Operating Units held by Old Atlas, was exchanged for one share of New Atlas Common Stock, the holders of such Operating Units became stockholders of New Atlas, and all of the Old Atlas Class B Common Stock issued and outstanding immediately prior to the Effective Time was surrendered and cancelled for no consideration. See Note 10 – *Redeemable Noncontrolling Interest* for additional information.

Cost of Sales, Excluding Depreciation, Depletion and Accretion Expense

Cost of sales, excluding depreciation, depletion and accretion expense, related to product sales primarily consists of the cost to produce product, including direct and indirect labor, employee housing costs, excavation costs, rental equipment, maintenance expense, utilities, natural gas and royalty expense. Product related costs were \$131.8 million, \$130.8 million, and \$57.8 million for the years ended December 31, 2023, 2022 and 2021, respectively.

Cost of sales, excluding depreciation, depletion and accretion expense, related to service sales primarily consists of direct and indirect labor, transportation costs and rental equipment. Service-related costs were \$128.6 million, \$68.1 million, and \$26.9 million for the years ended December 31, 2023, 2022 and 2021, respectively.

Selling, General and Administrative Expense

Selling, general and administrative expense primarily consists of non-production personnel wages and benefits, insurance expense, travel and entertainment, advertising expense, professional fees, rent expense for the Company’s corporate office and office supplies, among other expenses to support the business.

Defined Contribution Plans

The Company has defined contribution plans covering substantially all employees who meet certain service and eligibility requirements. The Company’s matching contribution to defined contribution plans was approximately \$0.7 million, \$0.5 million, and \$0.4 million for the years ended December 31, 2023, 2022 and 2021, respectively.

Income Taxes

For the purposes of this discussion, references to “Atlas Inc.” are to Old Atlas for reporting periods prior to the completion of the Up-C Simplification (the “Closing”), and to New Atlas following the Closing. Atlas Inc. is a corporation and it is subject to U.S. federal, state and local income taxes. The financial statement implications related to deferred tax liabilities of the Reorganization and Up-C Simplification referenced in Note 1 - *Business and Organization* and the tax impact of the Company’s status as a taxable corporation subject to U.S. federal, state and local income taxes have been reflected in the accompanying Financial Statements.

The Company, under *ASC 740–Income Taxes* (“ASC 740”), uses the asset and liability method of accounting for income taxes. Under the asset and liability method, deferred tax assets and liabilities are recognized for future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred tax assets and liabilities are measured using enacted tax rates in effect for the year in which those temporary differences are expected to be recovered or settled. The effect of a change in tax rate on deferred tax assets and liabilities is recognized in earnings in the period that includes the enactment date. A valuation allowance will be provided for deferred tax assets if it is more likely than not the deferred tax assets will not be realized.

Atlas LLC, the Company's predecessor, was organized as a limited liability company. As a limited liability company, Atlas LLC has either been treated as a disregarded entity or a partnership for income tax purposes and, therefore, is not subject to U.S. federal income tax. Rather, the U.S. federal income tax liability with respect to the taxable income of our predecessor was passed through to its owners.

ASC 740 prescribes a recognition threshold and a measurement attribute for the financial statement recognition and measurement of tax positions taken or expected to be taken in a tax return. The Company evaluates the uncertainty in tax positions taken or expected to be taken in the course of preparing the consolidated financial statements to determine whether the tax positions are more likely than not of being sustained by the applicable tax authority. However, the conclusions regarding the evaluation are subject to review and may change based on factors including, but not limited to, ongoing analysis of tax laws, regulations, and interpretations thereof. As of December 31, 2023, and December 31, 2022, the Company did not have any liabilities for uncertain tax positions or gross unrecognized tax benefits. Our income tax returns from 2019, 2020, 2021 and 2022 are open to examinations by U.S. federal, state or local tax authorities. The Company cannot predict or provide assurance as to the ultimate outcome of any existing or future examinations.

Segments

The Company operates as one operating segment. Operating segments are defined as components of an enterprise for which separate financial information is evaluated regularly by the chief operating decision maker ("CODM"). The Company's CODM was collectively its Chairman of the Board and Chief Executive Officer, and President and Chief Financial Officer.

The CODM evaluates the Company's financial information and performance on a consolidated basis for purposes of making operating decisions and allocating resources. The Company operates with centralized functions and delivers most of its products and services in a similar way to all customers.

Recently Issued Accounting Pronouncements

Financial Instruments – In June 2016, the FASB issued ASU 2016-13, Financial Instruments—Credit Losses (Topic 326), which amended the guidance on the impairment of financial instruments. The standard added an impairment model, referred to as current expected credit loss, which is based on expected losses rather than incurred losses. The standard applies to most debt instruments, trade receivables, lease receivables, reinsurance receivables, financial guarantees and loan commitments. Under the guidance, companies are required to disclose credit quality indicators disaggregated by year of origination for a five-year period. In May 2019, ASU 2016-13 was subsequently amended by ASU 2019-04, Codification Improvements to Topic 326, Financial Instruments—Credit Losses, ASU 2019-05, Financial Instruments—Credit Losses (Topic 326): Targeted Transition Relief. The new guidance became effective for fiscal years beginning after December 15, 2022. We adopted ASU 2016-13 on January 1, 2023. ASU 2016-13 was applied using a modified retrospective approach, with a cumulative-effect adjustment to the opening balance of retained earnings as of the adoption date. We analyzed trade accounts receivable on an individual customer and overall basis through review of historical collection experience and current aging status of our customer accounts. We also consider the financial condition and economic environment of our customers in evaluating the need for an allowance. There was no material cumulative impact of adoption in the opening balance of retained earnings as of January 1, 2023. See - *Accounts Receivable and Allowance for Credit Losses* discussed within this Note.

Leases - On January 1, 2022, the Company adopted ASU 2016-02, Leases (Topic 842), as amended by other ASUs issued since February 2016, using the modified retrospective transition method applied at the effective date of the standard. By electing this optional transition method, information prior to January 1, 2022 has not been restated and continues to be reported under the accounting standards in effect for the period (ASC Topic 840). The Company elected the package of practical expedients permitted under the transition guidance within the new standard, including the option to carry forward the historical lease classifications and assessment of initial direct costs, account for lease and non-lease components as a single lease, and to not include leases with an initial term of less than 12 months in the lease assets and liabilities. Refer to Note 6- *Leases* for additional information.

Recently Issued Accounting Pronouncements Not Yet Effective

Income Taxes- In December 2023, the FASB issued ASU 2023-09, Income Taxes (Topic 740): Improvements to Income Tax Disclosures. The standard requires disaggregated information about a reporting entity's effective tax rate reconciliation as well as information on income taxes paid. The standard is intended to benefit investors by providing more detailed income tax disclosures that would be useful in making capital allocation decisions and applies to all entities subject to income taxes. The new standard is effective for annual periods beginning after December 15, 2024. The Company is currently evaluating the impact of the consolidated financial statements.

Segments- In November 2023, the Financial Accounting Standard Board, or FASB, issued ASU No. 2023-07, "Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures" to improve reportable segment disclosure requirements, primarily through enhanced disclosures about significant segment expenses and information used to assess segment performance. The ASU is effective for fiscal years beginning after December 15, 2023 on a retrospective basis, and for interim periods within fiscal years beginning after December 15, 2024. Early adoption is permitted. The Company is currently evaluating the impact that the adoption of this standard will have on its consolidated financial statements and related disclosures.

Disclosure Improvements- In October 2023, the FASB issued ASU 2023-06: Disclosure Improvements- Codification Amendments in Response to the SEC's Disclosure Update and Simplification Initiative, which amends U.S. GAAP to reflect updates and simplifications to certain disclosure requirements referred to FASB by the SEC. The targeted amendments incorporate 14 of the 27 disclosures referred by the SEC into Codification. Some of the amendments represent clarifications to, or technical corrections of, the current requirements. ASU 2023-06 could move certain disclosures from the nonfinancial portions of SEC filings to the financial statement notes. Each amendment in ASU 2023-06 will only become effective if the SEC removes the related disclosure or presentation requirement from its existing regulation by June 30, 2027. No amendments were effective at December 31, 2023. The Company is currently evaluating the impact of the consolidated financial statements.

Note 3—Inventories

Inventories consisted of the following (in thousands):

	For the Year Ended December 31,	
	2023	2022
Raw materials	\$ 441	\$ 290
Work-in-process	4,937	4,825
Finished goods	1,071	499
Inventories	<u>\$ 6,449</u>	<u>\$ 5,614</u>

For the years ended December 31, 2023 and 2022, no inventory reserve was deemed necessary.

Note 4—Property, Plant and Equipment, Net

Property, plant and equipment, net, consisted of the following (in thousands):

	For the Year Ended December 31,	
	2023	2022
Plant facilities associated with productive, depletable properties	\$ 243,618	\$ 243,613
Plant equipment	489,953	251,122
Land	3,197	3,009
Furniture and office equipment	2,362	1,407
Computer and network equipment	1,648	1,648
Buildings and leasehold improvements	32,558	25,402
Logistics equipment	48,139	1,591
Construction in progress	248,004	111,711
Property, plant and equipment	1,069,479	639,503
Less: Accumulated depreciation and depletion	(134,819)	(97,979)
Property, plant and equipment, net	<u>\$ 934,660</u>	<u>\$ 541,524</u>

Depreciation expense recognized in depreciation, depletion and accretion expense was \$34.0 million, \$22.1 million, and \$19.4 million for the years ended December 31, 2023, 2022, and 2021, respectively. Depletion expense recognized in depreciation, depletion and accretion expense was \$5.8 million, \$5.4 million, and \$4.2 million for the years ended December 31, 2023, 2022, and 2021, respectively. Depreciation expense recognized in selling, general and administrative expense was \$1.8 million, \$1.1 million, and \$1.0 million for the years ended December 31, 2023, 2022 and 2021, respectively. The Company did not recognize impairment of long-lived assets or loss on disposal of assets for the years ended December 31, 2023, 2022, and 2021.

Note 5—Accrued Liabilities

Accrued liabilities consisted of the following (in thousands):

	For the Year Ended December 31,	
	2023	2022
Accrued capital expenditures	\$ 7,317	\$ 10,536
Accrued personnel costs	4,370	1,485
Accrued production costs	5,627	4,586
Accrued royalties	2,356	6,529
Professional services	1,251	1,263
Sales and use tax payable	3,373	2,144
Other	4,164	4,087
Total accrued liabilities	<u>\$ 28,458</u>	<u>\$ 30,630</u>

Note 6—Leases

The Company has operating and finance leases primarily for office space, equipment, and vehicles. The terms and conditions for these leases vary by the type of underlying asset.

The adoption of ASC Topic 842 resulted in the recognition of finance lease right-of-use assets, operating lease right-of-use assets, and lease liabilities for finance and operating leases. As of January 1, 2022, the adoption of the new standard resulted in the recognition of finance lease right-of-use assets of \$0.7 million, including \$0.7 million reclassified from property, plant and equipment, net, and finance lease liabilities of \$0.6 million. Additionally, the Company recorded operating lease right-of-use assets of \$5.4 million and operating lease liabilities of \$7.1 million, including \$2.3 million and \$4.8 million recorded to other short-term liabilities and other long-term liabilities, respectively as of January 1, 2022. There was no significant impact to the consolidated statements of income, equity or cash flows.

Certain leases include variable lease payments for items such as property taxes, insurance, maintenance, and other operating expenses associated with leased assets. Payments that vary based on an index or rate are included in the measurement of lease assets and liabilities at the rate as of the commencement date. All other variable lease payments are excluded from the measurement of lease assets and liabilities, and are recognized in the period in which the obligation for those payments is incurred.

The components of lease cost were as follows (in thousands):

	For the Year Ended December 31,	
	2023	2022
Finance lease cost:		
Amortization of right-of-use assets	\$ 4,358	\$ 2,027
Interest on lease liabilities	1,748	666
Operating lease cost	1,111	1,085
Variable lease cost	651	706
Short-term lease cost	25,763	12,576
Total lease cost	<u>\$ 33,631</u>	<u>\$ 17,060</u>

Supplemental cash flow and other information related to leases were as follows (in thousands):

	For the Year Ended December 31,	
	2023	2022
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash outflows from operating leases	\$ 1,312	\$ 1,305
Operating cash outflows from finance leases	\$ 1,748	\$ 666
Financing cash outflows from finance leases	\$ 2,001	\$ 1,010
Right-of-use assets obtained in exchange for new lease liabilities:		
Operating leases	\$ 559	\$ 6,245
Finance leases	\$ 25,063	\$ 21,201

During the year ended December 31, 2022, the Company modified an agreement which related to certain operating right-of-use assets of \$1.3 million and liabilities of \$1.3 million, and the change in terms increased the amount, extended the term, and resulted in finance lease classification. In connection with this modification, the Company recognized finance lease right-of-use assets of \$3.2 million and liabilities of \$3.2 million. There was no gain or loss recognized as a result of these amendments.

Lease terms and discount rates were as follows:

	For the Year Ended	
	2023	2022
Weighted-average remaining lease term:		
Operating leases	3.6 years	4.5 years
Finance leases	3.6 years	5.3 years
Weighted-average discount rate:		
Operating leases	4.7 %	4.3 %
Finance leases	5.2 %	9.4 %

Future minimum lease commitments as of December 31, 2023, are as follows (in thousands):

	Finance	Operating
2024	\$ 176	\$ 1,443
2025	90	1,474
2026	90	1,414
2027	90	815
2028	21	11
Thereafter	—	—
Total lease payments	467	5,157
Less imputed interest	45	410
Total	<u>\$ 422</u>	<u>\$ 4,747</u>

Supplemental balance sheet information related to our leases were as follows (in thousands):

	Classification	December 31, 2023	December 31, 2022
Operating Leases			
Current operating lease liabilities	Other current liabilities	\$ 1,249	\$ 1,082
Noncurrent operating lease liabilities	Other long-term liabilities	\$ 3,498	\$ 4,287
Finance Leases			
Current finance lease liabilities	Other current liabilities	\$ 158	\$ 3,213
Noncurrent finance lease liabilities	Other long-term liabilities	\$ 264	\$ 16,942

On July 31, 2023, Atlas LLC entered into a credit agreement (the “2023 Term Loan Credit Agreement”) with Stonebriar Commercial Finance LLC (“Stonebriar”), as administrative agent and initial lender, pursuant to which Stonebriar extended Atlas LLC a term loan credit facility comprising a \$180.0 million single advance term loan that was made on July 31, 2023 (the “Initial Term Loan”) and commitments to provide up to \$100.0 million of delayed draw term loans (collectively, the “2023 Term Loan Credit Facility”). Proceeds from the 2023 Term Loan Credit Facility were used to repay \$133.4 million of 2021 Term Loan Credit Facility principal and accrued interest, terminate \$42.8 million of finance lease liabilities, as well as acquire \$39.5 million of finance lease assets associated with certain equipment lease arrangements with Stonebriar. There was no gain or loss recognized as a result of this transaction. See Note 7 - *Debt* for further discussion on the 2023 Term Loan Credit Facility.

On July 28, 2022, Atlas LLC entered into a master lease agreement with Stonebriar for the right, but not the obligation, to fund up to \$10.0 million of purchases of dredges and related equipment. The interim financing for down payments on any purchased equipment is based on one-month Secured Overnight Financing Rate (“SOFR”), plus 8.0%. The final interest rate is set upon acceptance of the equipment based on the terms of the agreement. On July 31, 2023, in connection with entering into the 2023 Term Loan Credit Agreement, all obligations under this master lease agreement were terminated, all associated assets were acquired and this master lease agreement was terminated. There was no gain or loss recognized as a result of this transaction.

On May 16, 2022, Atlas LLC entered into a master lease agreement with Stonebriar for the right, but not the obligation, to fund up to \$70.0 million of purchases of transportation and logistics equipment. The interim financing for down payments on any purchased equipment is based on one-month SOFR, plus 8.0%. The final interest rate is set upon acceptance of the equipment based on the terms of the agreement. On July 31, 2023, in connection with entering into 2023 Term Loan Credit Agreement, all obligations under this master lease agreement were terminated, all associated assets were acquired and this master lease agreement was terminated. There was no gain or loss recognized as a result of this transaction.

As of December 31, 2023, we had no additional leases that have not yet commenced. Certain transportation and logistics leases discussed here are a component of the purchase commitments discussed in Note 8 - *Commitments and Contingencies*.

Note 7—Debt

Debt consists of the following (in thousands):

	For the Year Ended	
	December 31,	
	2023	2022
Term Loan Credit Facility	\$ 180,000	\$ 148,995
Less: Debt discount, net of accumulated amortization of \$480 and \$546, respectively	(6,769)	(1,254)
Less: Deferred financing fees, net of accumulated amortization of \$29 and \$248, respectively	(411)	(567)
Less: Current portion (a)	—	(20,586)
Long-term debt	<u>\$ 172,820</u>	<u>\$ 126,588</u>

(a) The current portion of long-term debt reflects payments based on the terms of the 2023 Term Loan Credit Facility and the 2021 Term Loan Credit Facility as of December 31, 2023 and December 31, 2022, respectively.

2023 Term Loan Credit Facility

On July 31, 2023, Atlas LLC entered into the 2023 Term Loan Credit Agreement.

The Initial Term Loan is payable in eighty-four consecutive monthly installments and a final payment of the remaining outstanding principal balance at maturity. The Initial Term Loan has a final maturity date of August 1, 2030 (the “Maturity Date”). The Initial Term Loan bears interest at a rate equal to 9.50% per annum.

Each delayed draw term loan (the “DDT Loans”) under the 2023 Term Loan Credit Facility will be payable in equal monthly installments, with the monthly installments comprising 80% of the DDT Loan and a final payment of the remaining 20% of the outstanding principal balance due at maturity, unless earlier prepaid. The DDT Loans will bear interest at a rate equal to the applicable Term SOFR Rate as of each Delayed Draw Funding Date (each as defined in the 2023 Term Loan Credit Agreement) plus 5.95% per annum. All monthly installments with respect to the Initial Term Loan and the DDT Loans payable on or prior to January 1, 2025 will be interest only.

At any time prior to the Maturity Date, Atlas LLC may redeem loans outstanding under the 2023 Term Loan Credit Facility, in whole or in part, at a price equal to 100% of the principal amount being prepaid (the “Prepayment Amount”) plus a prepayment fee. The prepayment fee is equal to 8% of the Prepayment Amount for any prepayment that occurs on or prior to December 31, 2024, 4% of the Prepayment Amount for any prepayment that occurs after December 31, 2024 but on or prior to December 31, 2025, 3% of the Prepayment Amount for any prepayment that occurs after December 31, 2025 but on or prior to December 31, 2026 and 2% of the Prepayment Amount for any prepayment that occurs thereafter. Upon the maturity of the 2023 Term Loan Credit Facility, the entire unpaid principal amount of the loans outstanding thereunder, together with interest, fees and other amounts payable in connection with the facility, will be immediately due and payable without further notice or demand.

Dividends and distributions to equity holders are permitted to be made pursuant to certain limited exceptions and baskets described in the 2023 Term Loan Credit Agreement and otherwise generally subject to certain restrictions set forth in the 2023 Term Loan Credit Agreement, including the requirements that (a) no Event of Default (as defined under the 2023 Term Loan Credit Agreement) has occurred and is continuing and (b) Atlas LLC maintains at least \$30.0 million of Liquidity (as defined under the 2023 Term Loan Credit Agreement) pro forma for the Restricted Payment (as defined under the 2023 Term Loan Credit Agreement).

The 2023 Term Loan Credit Facility includes certain non-financial covenants, including but not limited to restrictions on incurring additional debt and certain distributions. The 2023 Term Loan Credit Facility is subject to a maximum 4.0 to 1.0 Leverage Ratio (as defined in the 2023 Term Loan Credit Agreement) financial covenant. Such financial covenant is tested as of the last day of each fiscal quarter.

Proceeds from the 2023 Term Loan Credit Facility were used to repay outstanding indebtedness under our previous 2021 Term Loan Credit Facility with Stonebriar, to repay obligations outstanding under certain equipment lease arrangements with Stonebriar and for general corporate purposes. As of December 31, 2023, the Company was in compliance with the covenants of the 2023 Term Loan Credit Facility.

The 2023 Term Loan Credit Facility is unconditionally guaranteed, jointly and severally, by Atlas LLC and its subsidiaries and secured by substantially all of the assets of Atlas LLC and its subsidiaries. The 2023 Term Loan Credit Facility is unconditionally guaranteed on an unsecured basis by Atlas Energy Solutions Inc.

2023 ABL Credit Facility

On February 22, 2023, Atlas LLC, certain of its subsidiaries, as guarantors, Bank of America, N.A., as agent, and certain financial institutions party thereto as lenders (the “2023 ABL Lenders”) entered into a Loan, Security and Guaranty Agreement (the “2023 ABL Credit Agreement”) pursuant to which the 2023 ABL Lenders provide revolving credit financing to Atlas LLC in an aggregate principal amount of up to \$75.0 million (the “2023 ABL Credit Facility”), with Availability (as defined in the 2023 ABL Credit Agreement) thereunder subject to a “Borrowing Base” as described in the 2023 ABL Credit Agreement. The 2023 ABL Credit Facility includes a letter of credit sub-facility, which permits issuance of letters of credit up to an aggregate amount of \$25.0 million. The scheduled maturity date of the 2023 ABL Credit Facility is February 22, 2028; provided that the 2023 ABL Credit Facility will mature on June 30, 2027 if any amount of the 2023 Term Loan Credit Facility that has a maturity date less than 91 days prior to February 22, 2028 is outstanding on June 30, 2027. As of December 31, 2023, Atlas LLC had no outstanding borrowings and \$1.1 million outstanding letters of credit under the 2023 ABL Credit Facility.

Atlas LLC may also request swingline loans under the 2023 ABL Credit Agreement in an aggregate principal amount not to exceed \$7.5 million. During the year ended December 31, 2023, Atlas LLC had no outstanding swingline loans under the 2023 ABL Credit Facility.

Borrowings under the 2023 ABL Credit Facility bear interest, at Atlas LLC’s option, at either a base rate or Term SOFR, as applicable, plus an applicable margin based on average availability as set forth in the 2023 ABL Credit Agreement. Term SOFR loans bear interest at Term SOFR for the applicable interest period plus an applicable margin, which ranges from 1.50% to 2.00% per annum based on average availability as set forth in the 2023 ABL Credit Agreement. Base rate loans bear interest at the applicable base rate, plus an applicable margin, which ranges from 0.50% to 1.00% per annum based on average availability as set forth in the 2023 ABL Credit Agreement. In addition to paying interest on outstanding principal under the 2023 ABL Credit Facility, Atlas LLC is required to pay a commitment fee which ranges from 0.375% per annum to 0.500% per annum with respect to the unutilized commitments under the 2023 ABL Credit Facility, based on the average utilization of the 2023 ABL Credit Facility. Atlas LLC is required to pay customary letter of credit fees, to the extent that one or more letter of credit is outstanding. For the year ended December 31, 2023, we recognized \$0.3 million of interest expense, unutilized commitment fees and other fees under the 2023 ABL Credit Facility, classified as interest expense.

The Borrowing Base was initially set at \$75.0 million and the amount of available credit changes every month, depending on the amount of eligible accounts receivable and inventory we have available to serve as collateral. The Borrowing Base components are subject to customary reserves and eligibility criteria. As of December 31, 2023, the Borrowing Base was \$75.0 million and Availability was \$73.9 million.

The 2023 ABL Credit Facility requires that if Availability is less than the greater of (i) 12.50% of the Borrowing Base and (ii) \$7.5 million, Atlas LLC must maintain a Fixed Charge Coverage Ratio (as defined in the 2023 ABL Credit Agreement) of at least 1.00 to 1.00 while a Covenant Trigger Period (as defined in the 2023 ABL Credit Agreement) is in effect.

Under the 2023 ABL Credit Agreement, Atlas LLC is permitted to make payments of dividends and distributions pursuant to certain limited exceptions and baskets set forth therein and otherwise generally subject to certain restrictions described therein, including that (i) no Event of Default (as defined under the 2023 ABL Credit Agreement) has occurred and is continuing, and (ii) no loans and no more than \$7.5 million in letters of credit that have not been cash collateralized are outstanding, and liquidity exceeds \$30.0 million at all times during the 30 days prior to the date of the dividend or distribution; provided that if any loans are outstanding or outstanding letters of credit exceed \$7.5 million and no Event of Default has occurred and is continuing, then Atlas LLC is permitted to make payments of dividends and distributions if, (i) Availability (as defined under the 2023 ABL Credit Agreement) is higher than the greater of (a) \$12 million and (b) 20% of the pro forma Borrowing Base then in effect and during the 30 days prior to the date of the dividend or distribution as if such dividend or distribution had been made at the beginning of such period, or if (ii) (a) Availability is higher than the greater of (x) \$9 million and (y) 15% of the pro forma Borrowing Base then in effect and during the 30 days prior to the date of the dividend or distributions as if such dividend or distribution had been made at the beginning of such period and (b) the Fixed Charge Coverage Ratio (as defined under the 2023 ABL Credit Agreement), as calculated on a pro forma basis, is greater than 1.00 to 1.00, as provided under the 2023 ABL Credit Agreement. Additionally, Atlas LLC may make additional payments of dividends and distributions in qualified equity interests and may make Permitted Tax Distributions (as defined under the 2023 ABL Credit Agreement).

The 2023 ABL Credit Facility contains certain customary representations and warranties, affirmative and negative covenants, and events of default. As of December 31, 2023, the Company was in compliance with the covenants under the 2023 ABL Credit Facility.

The 2023 ABL Credit Facility is unconditionally guaranteed, jointly and severally, by Atlas LLC and its subsidiaries and secured by substantially all of the assets of Atlas LLC and its subsidiaries.

2021 Term Loan Credit Facility

On October 20, 2021, Atlas LLC entered into a credit facility with Stonebriar (the “2021 Term Loan Credit Facility”). The loans outstanding under the 2021 Term Loan Credit Facility bore interest at a rate of 8.47% per annum and had an initial maturity date of October 1, 2027. The 2021 Term Loan Credit Facility was unconditionally guaranteed, jointly and severally, by Atlas LLC and certain of its subsidiaries. The 2021 Term Loan Credit Facility was guaranteed on a secured basis and interest, plus principal, was initially payable in consecutive monthly installments.

At any time prior to the October 1, 2027, maturity date, Atlas LLC could redeem the 2021 Term Loan Credit Facility, in whole or in part, at a price equal to 100% of the principal amount plus a prepayment fee. The prepayment fee ranged from 3% on or before October 20, 2022, to 2% after October 20, 2022, and on or before October 20, 2023, and 1% thereafter. Upon maturity of the 2021 Term Loan Credit Facility, the entire unpaid principal amount, together with interest, fees and other amounts payable in connection with the facility, would be immediately due and payable without further notice or demand.

The 2021 Term Loan Credit Facility included certain covenants, including but not limited to restrictions on incurring additional debt and certain restricted payments. The 2021 Term Loan Credit Facility was not subject to financial covenants unless \$5.0 million or more in aggregate was outstanding under the 2023 ABL Credit Agreement (as defined below), at which time a minimum average liquidity balance of \$20.0 million must be maintained. Dividends and distributions to equity holders were permitted to be made pursuant to certain limited exceptions and baskets as described in the credit agreement governing the 2021 Term Loan Credit Facility (the “2021 Term Loan Credit Agreement”) and otherwise generally subject to certain restrictions as described in the 2021 Term Loan Credit Agreement, including the requirements that (a) no Event of Default (as defined in the 2021 Term Loan Credit Agreement) have occurred and be continuing, (b) Atlas LLC maintaining a \$30.0 million cash balance pro forma for the Restricted Payment (as defined in the 2021 Term Loan Credit Agreement), (c) an Annualized Leverage Ratio (as defined in the 2021 Term Loan Credit Agreement) not greater than 2.00 to 1.00 and (d) Atlas LLC making a concurrent prepayment of the loans outstanding under the 2021 Term Loan Credit Facility, which prepayment would not subject to a prepayment penalty fee, in an amount equal to one-third or one-fourth of the total equity distributions being made, based on a pro forma leverage ratio set forth in the 2021 Term Loan Credit Agreement. Furthermore, the 2021 Term Loan Credit Facility permitted dividends and distributions in certain other circumstances subject to the terms of the 2021 Term Loan Credit Agreement, including dividends and distributions made solely in certain qualified equity interests, tax distributions, and dividends of up to 10.0% per annum of the net proceeds raised in our IPO. During 2022, Atlas LLC paid \$45.0 million of equity distributions and concurrently prepaid \$12.6 million of the 2021 Term Loan Credit Facility as required by the terms described above. In January 2023, prior to the Reorganization, the board of managers of Atlas LLC approved and paid \$15.0 million of equity distributions, and Atlas LLC concurrently prepaid \$3.8 million of the 2021 Term Loan Credit Facility as required by the terms described above. In May 2023, Atlas Operating approved and paid a distribution of \$0.15 per Operating Unit, in the aggregate amount of \$15.0 million, as permitted by the Amended and Restated Limited Liability Company Agreement of Atlas Operating (the “Atlas Operating LLCA”), and Atlas LLC declared and paid a quarterly variable dividend of \$0.15 per share of Old Atlas Class A Common Stock. Concurrently with this distribution and dividend, Atlas LLC repaid \$3.8 million of the 2021 Term Loan Credit Facility at par per the terms of the 2021 Term Loan Credit Facility.

Proceeds from the 2021 Term Loan Credit Facility were used exclusively for general corporate purposes, which included the repayment of outstanding indebtedness under the 2018 Term Loan Credit Facility, and to make permitted distributions. As of December 31, 2022, the Atlas LLC was in compliance with the covenants of the 2021 Term Loan Credit Facility.

The 2021 Term Loan Credit Facility was unconditionally guaranteed, jointly and severally, by Atlas LLC and certain of its subsidiaries and secured by substantially all of the assets of Atlas LLC and certain of its subsidiaries, excluding: OLC Kermit, LLC, OLC Monahans, LLC and Atlas OLC Employee Company, LLC.

On February 22, 2023, Atlas LLC and Stonebriar agreed to amend the 2021 Term Loan Credit Facility to, among other things, permit Atlas LLC to enter into the 2023 ABL Credit Facility with the 2023 ABL Lenders and to update certain related terms.

Repayment of the 2021 Term Loan Credit Facility

On July 31, 2023, Atlas LLC entered into the 2023 Term Loan Credit Agreement with Stonebriar, proceeds from which were used to repay \$133.4 million of 2021 Term Loan Credit Facility principal and accrued interest, repay \$42.8 million of finance lease liabilities, as well as acquire \$39.5 million of finance lease assets associated with certain equipment lease arrangements with Stonebriar. In connection with this refinancing, on July 31, 2023, we paid the lender a prepayment fee on the 2021 Term Loan Credit Facility of \$2.6 million, a senior secured term loan fee on the 2023 Term Loan Credit Facility of \$2.7 million and a DDT Loan fee on the 2023 Term Loan Credit Facility of \$2.7 million. As this transaction was accounted for as a modification under ASC 470 - Debt, these fees paid to the lender, as well as previously unamortized debt discount and deferred financing fees associated with the 2021 Term Loan Credit Facility of \$1.4 million were deferred and recorded as a direct reduction from the carrying amount of the debt obligation on the consolidated balance sheets. These deferred costs are amortized to interest expense using the effective interest method.

2018 Asset-Based Loan Credit Facility

On December 14, 2018, Atlas LLC entered into the 2018 ABL Credit Facility that provided revolving credit financing with a borrowing capacity of up to \$50.0 million. The 2018 ABL Credit Facility was unconditionally guaranteed, jointly and severally, by Atlas LLC and its subsidiaries. The 2018 ABL Credit Facility had a maturity date of December 14, 2023. As of December 31, 2022, Atlas LLC had no outstanding borrowings under the 2018 ABL Credit Facility.

The 2018 ABL Credit Facility included a letter of credit which permitted issuances of letters of credit up to an aggregate amount of \$10.0 million. As of December 31, 2022, Atlas LLC had \$1.1 million of outstanding letters of credit under the 2018 ABL Credit Facility.

Atlas LLC could also request swingline loans under the agreement in an aggregate principal amount not to exceed \$7.5 million. During the year ended December 31, 2022, Atlas LLC had no outstanding swingline loans under the 2018 ABL Credit Facility.

Obligations under the 2018 ABL Credit Facility were secured by a first-priority lien on substantially all assets of Atlas LLC, until September 9, 2019, when the lenders and Atlas LLC entered into a split collateral intercreditor agreement, at which time the 2018 ABL Credit Facility became secured by a first-priority lien on inventory and accounts receivable held by Atlas LLC and its subsidiaries, and a second-priority lien on the remaining assets of Atlas LLC.

Initially, the borrowing base was set at \$35.0 million for the period beginning on December 14, 2018 and ending on April 1, 2019. Thereafter, the amount of available credit changed every month, depending on the amount of eligible accounts receivable and inventory Atlas LLC had available to serve as collateral. For the period beginning on April 1, 2019, and ending on June 30, 2019, the facility was limited to the lesser of (a) 85% to 90% of the eligible accounts receivable and (b) 75% of the market value of the eligible inventory. Thereafter, the facility was limited to the lesser of (i) the aggregate commitment and (ii) the sum of (a) 85% to 90% of the eligible accounts receivable and (b) lesser of 70% of the cost of the eligible inventory and 85% of the orderly liquidation value of the eligible inventory. The borrowing base components were subject to customary reserves and eligibility criteria. As of December 31, 2022, availability was \$48.9 million.

Borrowings under the 2018 ABL Credit Facility bore interest, at Atlas LLC's option, at either a base rate or London Interbank Offered Rate ("LIBOR"), as applicable, plus an applicable margin that ranges based on average excess availability. LIBOR loans bore interest at LIBOR plus an applicable margin, which ranged from 1.50% to 2.00%. Base rate loans bore interest at the applicable base rate, plus an applicable margin, which ranged from 0.50% to 2.00%. In addition to paying interest on outstanding principal under the 2018 ABL Credit Facility, Atlas LLC was required to pay a commitment fee of 0.375% per annum with respect to the unutilized commitment under the 2018 ABL Credit Facility, based on the average utilization of the 2018 ABL Credit Facility. Atlas LLC was also required to pay customary letter of credit fees, to the extent that one or more letter of credit was outstanding. There were no outstanding borrowings under the 2018 ABL Credit Facility as of December 31, 2022. We recognized \$0.2 million and \$0.2 million of interest expense, unutilized commitment fees and other fees under the 2018 ABL Credit Facility, classified as interest expense, for the years ended December 31, 2022 and 2021, respectively.

The 2018 ABL Credit Facility required that if the "availability," as defined in the credit agreement governing the 2018 ABL Credit Facility (the "2018 ABL Credit Agreement"), was less than the greater of (i) 12.50% of the maximum credit and (ii) \$5.0 million, Atlas LLC must comply with a minimum fixed charge coverage ratio of at least 1.00 to 1.00, for covenant trigger periods beginning after March 14, 2019. In addition, the 2018 ABL Credit Facility contained negative covenants that restricted Atlas LLC from, among other things, incurring additional debt, granting liens, entering into guarantees, entering into certain mergers, making certain loans and investments, entering into swap agreements, disposing of assets, prepaying certain debt, declaring dividends, instituting accounting changes, entering into transactions with affiliates, modifying certain material agreements or organizational documents relating to, or changing the business it conducts.

The 2018 ABL Credit Facility contained certain customary representations and warranties, affirmative covenants, and events of default, including, among other things, payment defaults, breach of representations and warranties, covenant defaults, cross-defaults and cross-acceleration to certain indebtedness, certain events of bankruptcy, certain events of abandonment, certain events under the Employee Retirement Income Security Act of 1974, as amended, material judgments, actual or asserted failure of any guaranty or security document supporting the 2018 ABL Credit Facility to be in full force and effect and change of control. If such an event of default had occurred, the lenders under the 2018 ABL Credit Facility would have been entitled to take various actions, including the acceleration of amounts due under the 2018 ABL Credit Facility and all actions permitted to be taken by a secured creditor. As of December 31, 2022, Atlas LLC was in compliance with the covenants of the 2018 ABL Credit Facility.

Limited Waiver and First Amendment to the 2018 ABL Credit Facility

On June 4, 2019, Atlas LLC and the lenders under the 2018 ABL Credit Facility entered into the First Amendment to the 2018 ABL Credit Facility (the “Limited Waiver and First Amendment”), which extended the due date for taking certain actions with regard to two wholly-owned subsidiaries of Atlas LLC, OLC Kermit, LLC and OLC Monahans, LLC, and allowed the making of limited investments into those subsidiaries. In addition, the lender agreed to waive any defaults or events of default that may have resulted from Atlas LLC’s acquisition of the two subsidiaries. The Limited Waiver and First Amendment was extended on each of August 31, 2019, December 31, 2019, and June 30, 2020.

Second Amendment to the 2018 ABL Credit Facility

On October 22, 2019, Atlas LLC and the lenders under the 2018 ABL Credit Facility agreed to further amend certain terms of the 2018 ABL Credit Facility to allow Atlas LLC to enter into insurance premium financing arrangements in the ordinary course of business.

Third Amendment to the 2018 ABL Credit Facility

On April 13, 2020, Atlas LLC and the lenders under the 2018 ABL Credit Facility agreed to further amend certain terms of the 2018 ABL Credit Facility allowing Atlas LLC, in the event the Qualified Small Business Administration Loan (“Qualified SBA Loan”) was not forgiven, or failed to qualify for forgiveness, in accordance with the terms of the Coronavirus Aid, Relief, and Economic Security Act (“CARES ACT”), to establish reserves up to the amount of the Qualified SBA Loan that was not forgiven or failed to qualify for forgiveness.

Fourth Amendment to the 2018 ABL Credit Facility

On March 23, 2021, Atlas LLC and the lenders under the 2018 ABL Credit Facility agreed to further amend certain terms of the 2018 ABL Credit Facility, including expanding the list of assets available for the calculation of available credit (the “Fourth Amendment to the 2018 ABL Credit Facility”). Subsequent to the execution of the Fourth Amendment to the 2018 ABL Credit Facility, the 2018 ABL Credit Facility was limited to the lesser of (i) the aggregate commitment and (ii) the sum of (a) 90% of the book value of eligible accounts receivable, (b) lesser of 100% “Pledged Cash,” defined, on any date, as the aggregate amount of unrestricted cash on deposit in the cash collateral account, and \$25.0 million, and (c) the lesser of 70% of the cost of eligible inventory and 85% of the net orderly liquidation value of the eligible inventory. Atlas LLC was required to keep cash on deposit in the cash collateral account only to the extent any outstanding borrowings under the 2018 ABL Credit Facility exceeded the portion of the borrowing base represented by accounts receivable and inventory. The borrowing base components were subject to customary reserves and eligibility criteria. Additionally, the Fourth Amendment to the 2018 ABL Credit Facility contained provisions addressing the potential transition from LIBOR to a SOFR, in the event the administrator had ceased or would cease publication of LIBOR.

Fifth Amendment to the 2018 ABL Credit Facility

On October 20, 2021, Atlas LLC and the lender under the 2018 ABL Credit Facility agreed to further amend certain terms of the 2018 ABL Credit Facility, to, among other things, allow Atlas LLC to enter into the 2021 Term Loan Credit Facility to repay all borrowings outstanding under the 2018 Term Loan Credit Facility and to conform certain covenants under the 2018 ABL Credit Facility to the 2021 Term Loan Credit Facility.

Termination of the 2018 Asset-Based Loan Credit Facility

On February 22, 2023, Atlas LLC terminated the 2018 ABL Credit Facility. Atlas LLC had no borrowings under the 2018 ABL Credit Facility at the time of its termination. In connection with the termination, we charged the remaining balance of the deferred financing cost of \$0.2 million to interest expense, net on the consolidated statements of operations for the year ended December 31, 2023. We incurred de minimis fees associated with the termination.

2018 Term Loan Credit Facility

On January 30, 2018, the Atlas LLC entered into a credit facility with BlackGold SPV I LP (the “2018 Term Loan Credit Facility”) that provided debt financing in an aggregate principal amount of \$150.0 million, which was funded in a series of tranches during 2018. In connection with the 2018 Term Loan Credit Facility, Atlas LLC delivered to the lender warrants for up to 41,299,845 Class D units representing membership interests in Atlas LLC (“Class D units”). During the year ended December 31, 2018, the lender exercised all 41,299,845 Class D warrants.

Obligations under the 2018 Term Loan Credit Facility were secured by a second-priority lien on substantially all assets of Atlas LLC, until September 9, 2019, when the lenders and Atlas LLC entered into the split collateral intercreditor agreement, at which time the 2018 Term Loan Credit Facility became secured by a second-priority lien on inventory and accounts receivable held by Atlas LLC and its subsidiaries, and a first-priority lien on the remaining assets of Atlas LLC. In addition, Atlas LLC’s subsidiaries had guaranteed Atlas LLC’s obligations under the 2018 Term Loan Credit Facility and had granted to the lender security interests in substantially all respective assets.

Borrowings under the 2018 Term Loan Credit Facility bore interest equal to the lesser of (1) the applicable interest rate, which was set at either 10% or 13% per annum, based upon the Atlas LLC’s consolidated leverage ratio or (2) the highest lawful rate, as defined in the credit agreement governing the 2018 Term Loan Credit Facility. Atlas LLC, at its option, could pay up to 50% of any interest payment in-kind. The interest rate for the 2018 Term Loan Credit Facility was 13% during the year ended December 31, 2021. We recognized interest expense associated with the 2018 Term Loan Credit Facility of \$18.9 million for the year ended December 31, 2021.

The 2018 Term Loan Credit Facility had a maturity date of January 30, 2023, and, for certain loans, would amortize in quarterly installments equal to 1.00% of the aggregate outstanding principal balance as of each quarterly payment date beginning with the initial payment, which was made for the year ended December 31, 2018. Beginning on March 31, 2021, the quarterly principal payments increased to 5.00% of the aggregate outstanding principal balance, with the balance payable on the final maturity date, subject to the amend and extend provisions applicable under the agreement.

Atlas LLC had the option to voluntarily prepay the outstanding 2018 Term Loan Credit Facility along with all interest then accrued and unpaid, in whole or in part, and the applicable premium payment based upon either (a) the present value using a discount rate based upon a U.S. Treasury rate plus 50 basis points of the amount of interest that would have been payable on the principal balance prepaid if prior to January 30, 2020, (b) 7% of the principal balance prepaid thereafter and prior to January 30, 2021, (c) 3% of the principal balance prepaid, anytime thereafter, or (d) 1% of the principal balance if prepaid upon the occurrence of an initial public offering.

The 2018 Term Loan Credit Facility contained customary representations and warranties and customary affirmative and negative covenants, including limits or restrictions on Atlas LLC’s ability to incur liens, incur indebtedness, make certain restricted payments, merge or consolidate and dispose of assets. In addition, it contained customary events of default that entitled the lenders to cause any or all of Atlas LLC’s indebtedness under the 2018 Term Loan Credit Facility to become immediately due and payable. The events of default (some of which were subject to applicable grace or cure periods) included, among other things, nonpayment defaults, covenant defaults, cross-defaults to other material indebtedness, bankruptcy and insolvency defaults and material judgment defaults.

First Amendment to the 2018 Term Loan Credit Facility

On April 3, 2019, Atlas LLC and the lender under the 2018 Term Loan Credit Facility entered into the First Amendment to the 2018 Term Loan Credit Facility, which provided for borrowings of an additional \$25.0 million, primarily to fund capital improvement projects. In addition, language related to the payment terms of the 2018 Term Loan Credit Facility was amended so that all aggregate outstanding principal related to the 2018 Term Loan Credit Facility, other than the paid-in-kind loans, would be paid according to the terms noted above.

In connection with the First Amendment to the 2018 Term Loan Credit Facility, additional warrants were delivered for up to 4,192,460 Class D units, which were exercisable upon funding of the draws in proportion to the additional \$25.0 million in borrowings. During the year ended December 31, 2020, the Company delivered and the lender immediately exercised the remaining 2,515,470 Class D warrants associated with the First Amendment. There were no warrants outstanding as of December 31, 2023 and 2022.

On June 20, 2019, Atlas LLC borrowed \$5.0 million of the additional \$25.0 million available under the 2018 Term Loan Credit Facility. On June 28, 2019, Atlas LLC borrowed another \$5.0 million of the additional \$25.0 million available under the 2018 Term Loan Credit Facility. On April 24, 2020 and July 7, 2020, Atlas LLC borrowed \$12.2 and \$2.3 million of the additional \$25.0 million available under the 2018 Term Loan Credit Facility, respectively.

Limited Waiver and Second Amendment to the 2018 Term Loan Credit Facility

On June 4, 2019, Atlas LLC and the lender under the 2018 Term Loan Credit Facility entered into the Second Amendment to the 2018 Term Loan Credit Facility (the “Limited Waiver and Second Amendment”). The Limited Waiver and Second Amendment extended the due date for taking certain actions with regard to two wholly-owned subsidiaries of Atlas LLC, OLC Kermit, LLC and OLC Monahans, LLC, and allowed the making of limited investments into those subsidiaries. In addition, pursuant to the Limited Waiver and Second Amendment, the lender agreed to waive any defaults or events of default that may have resulted from Atlas LLC’s acquisition of the two subsidiaries. The Limited Waiver and Second Amendment was extended on each of August 31, 2019, December 31, 2019, June 30, 2020, and August 29, 2020.

Third Amendment to the 2018 Term Loan Credit Facility

On October 22, 2019, Atlas LLC and the lender under the 2018 Term Loan Credit Facility further agreed to amend certain terms of the 2018 Term Loan Credit Facility to allow Atlas LLC to enter into insurance premium financing arrangements in the ordinary course of business.

Fourth Amendment to the 2018 Term Loan Credit Facility

On April 13, 2020, Atlas LLC and the lender under the 2018 Term Loan Credit Facility further agreed to amend certain terms of the 2018 Term Loan Credit Facility to allow Atlas LLC to receive the Qualified Small Business Administration Loan in an amount not to exceed \$10.0 million.

Extinguishment of the 2018 Term Loan Credit Facility

On October 25, 2021, Atlas LLC repaid all borrowings outstanding under the 2018 Term Loan Credit Facility, in connection with entering into a new 2021 Term Loan Credit Facility with Stonebriar. Atlas LLC paid a total of \$171.0 million, which included principal of \$143.1 million, paid-in-kind borrowings of \$22.2 million, make-whole premium of \$4.5 million, and \$1.2 million of accrued interest. In connection with the repayment on October 25, 2021, unamortized debt discount and deferred financing costs of \$11.9 million and a make-whole premium of \$4.5 million were recognized as a loss on extinguishment of debt within interest expense, net, on the consolidated statements of operations for the year ended December 31, 2021.

See Note 15 - *Subsequent Events*, for additional disclosure on debt agreements entered into subsequent to year end.

Debt Obligations

The following table sets forth future principal payment obligations as of December 31, 2023, based on the terms of the 2023 Term Loan Credit Facility (in thousands).

2024	\$	—
2025		19,745
2026		21,704
2027		23,859
2028		26,227
Thereafter		88,465
Total	<u>\$</u>	<u>180,000</u>

Note 8—Commitments and Contingencies

Royalty Agreements

Atlas LLC entered into a royalty agreement associated with its leased property at the Kermit facilities and a mining agreement associated with its leased property at the Monahans facility, in each case, with The Sealy & Smith Foundation, a related party. The royalty agreement associated with the Kermit facilities terminated on the date of our IPO, pursuant to the terms of the agreement. Under the mining agreement associated with the Monahans facility, we are committed to pay royalties on product sold from that facility and are required to pay a minimum royalties of \$1.0 million for any lease year following our IPO. Royalty expense associated with these agreements is recorded as the product is sold and is included in costs of sales. Royalty expense totaled less than 10% of cost of sales, between 10% and 15% of cost of sales, and less than 10% of cost of sales for the years ended December 31, 2023, 2022, and 2021, respectively.

Standby Letters of Credit

On February 22, 2023, the 2018 ABL Credit Facility was terminated and our standby letters of credit were transferred to our 2023 ABL Credit Facility. For the years ended December 31, 2023 and 2022, we had \$1.1 million outstanding in standby letters of credit issued under the 2023 ABL Credit Facility and we had \$1.1 million outstanding in standby letters of credit issued under the 2018 ABL Credit Facility, respectively.

Lease Obligations

As of December 31, 2023, the Company's estimated future minimum lease payments under long-term operating and finance lease agreements are associated with the Company's adoption of ASC 842 and relate to lease payment maturities. The Company's leases include office space, equipment and vehicles. See Note 6 - *Leases*, for additional disclosure on the Company's estimated future minimum lease payments.

Purchase Commitments

On March 23, 2022, we entered into an agreement to purchase transportation and logistics equipment in the amount of \$26.2 million and \$5.2 million in 2023 and 2022, respectively, subject to customary terms and conditions. As of December 31, 2023, there was no outstanding commitment associated with this agreement. On April 20, 2022, we entered into an agreement to purchase transportation and logistics equipment in the amount of \$11.9 million and \$8.5 million in 2023 and 2022, respectively, subject to customary terms and conditions. As of December 31, 2023, there was no outstanding commitment associated with this agreement. In addition, in connection with the construction of the Dune Express, we enter short-term purchase obligations for products and services. We expect to use the remaining \$104.2 million of the net proceeds from the IPO and cash flow from operations to fund the obligations over the next approximately 12 months.

Litigation

We are involved in various legal and administrative proceedings that arise from time to time in the ordinary course of doing business. Some of these proceedings may result in fines, penalties or judgments being assessed against us, which may adversely affect our financial results. In addition, from time to time, we are involved in various disputes, which may or may not be settled prior to legal proceedings being instituted and which may result in losses in excess of accrued liabilities, if any, relating to such unresolved disputes. Expenses related to litigation reduce operating income. We do not believe that the outcome of any of these proceedings or disputes would have a significant adverse effect on our financial position, long-term results of operations or cash flows. It is possible, however, that charges related to these matters could be significant to our results of operations or cash flows in any single accounting period. Management is not aware of any legal, environmental or other commitments and contingencies that would have a material effect on the Financial Statements.

Note 9— Stockholders Equity

Common Stock

Holders of shares of New Atlas 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 New Atlas Common Stock do not have cumulative voting rights in the election of directors. Holders of shares of New Atlas Common Stock are entitled to ratably receive dividends when and if declared by New Atlas's 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. Upon New Atlas's liquidation, dissolution, distribution of assets or other winding up, the holders of New Atlas 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 outstanding shares of preferred stock.

The Company is authorized to issue 500,000,000 shares of New Atlas Preferred Stock and 1,500,000,000 shares of New Atlas Common Stock. As of December 31, 2023, there were 100,025,584 shares of New Atlas Common Stock issued and outstanding and no shares issued or outstanding of New Atlas Preferred Stock.

Old Atlas Class A Common Stock

Holders of shares of Old Atlas Class A Common Stock were entitled to one vote per share held of record on all matters to be voted upon by the Old Atlas stockholders and were entitled to ratably receive dividends when and if declared by Old Atlas's board of directors. Upon liquidation, dissolution, distribution of assets or other winding up, the holders of shares of Old Atlas Class A Common Stock were entitled to receive ratably the assets available for distribution to the stockholders after payment of liabilities and the liquidation preference of any outstanding shares of preferred stock. As a result of the Up-C Simplification, each share of Old Atlas Class A Common Stock issued and outstanding immediately prior to the Effective Time was exchanged for one share of New Atlas Common Stock and the holders of Old Atlas Class A Common Stock became stockholders of New Atlas. See Note 1 – *Business and Organization* for further discussion.

Old Atlas Class B Common Stock

Holders of shares of Old Atlas Class B Common Stock were entitled to one vote per share on all matters to be voted upon by the Old Atlas stockholders. Holders of Old Atlas Class A Common Stock and Old Atlas Class B Common Stock generally voted together as a single class on all matters presented to Old Atlas's stockholders for their vote or approval. Holders of Old Atlas Class B Common Stock did not have any right to receive dividends or distributions upon a liquidation or winding up of Old Atlas. See Note 10 – *Redeemable Noncontrolling Interest* for more information regarding the Old Atlas Class B Common Stock.

Up-C Simplification

On October 2, 2023, Old Atlas and New Atlas completed the Up-C Simplification contemplated by the Master Reorganization Agreement.

Pursuant to the Master Reorganization Agreement, (a) PubCo Merger Sub merged with and into Old Atlas, as a result of which (i) each share of Old Atlas Class A Common Stock then issued and outstanding was exchanged for one share of New Atlas Common Stock, (ii) all of the Old Atlas Class B Common Stock then issued and outstanding was surrendered and cancelled for no consideration and (iii) Old Atlas survived the PubCo Merger as a direct, wholly-owned subsidiary of New Atlas; and (b) Opco Merger Sub merged with and into Atlas Operating, as a result of which (i) each Operating Unit then issued and outstanding, other than those Operating Units held by Old Atlas, was exchanged for one share of New Atlas Common Stock and (ii) Atlas Operating became a wholly-owned subsidiary of New Atlas.

After completion of the Up-C Simplification, New Atlas replaced Old Atlas as the publicly held entity and, through its subsidiaries, conducts all of the operations previously conducted by Old Atlas, and Old Atlas remains the managing member of Atlas Operating. See Note 1 – *Business and Organization* for more information.

Dividends and Distributions

In April 2023, Atlas Operating approved a distribution to its unitholders, Old Atlas and Holdings, in the aggregate amount of \$4.1 million for the payment of estimated U.S. federal income tax obligations, as permitted by the Amended and Restated Limited Liability Company Agreement of Atlas Operating, dated as of March 8, 2023 (the “Prior Atlas Operating LLCA”). To effect the payment of the distribution, Atlas Operating made a distribution of \$2.3 million to Old Atlas, which was remitted to the Internal Revenue Service. The related \$1.8 million pro rata distribution was paid to Holdings.

In May 2023, Atlas Operating approved and paid a distribution of \$0.15 per Operating Unit, in the aggregate amount of \$15.0 million, as permitted by the Prior Atlas Operating LLCA, and Old Atlas declared a quarterly variable dividend of \$0.15 per share of Old Atlas Class A Common Stock. To effect the payment of the dividend, Atlas Operating paid a distribution of \$0.15 per Operating Unit to each of Old Atlas and Holdings, Old Atlas used its respective distribution to fund the quarterly variable dividend paid to the holders of the Old Atlas Class A Common Stock, and Holdings distributed its respective distribution to certain Legacy Owners who were holders of membership interests in Holdings. Concurrently with this distribution, Atlas LLC repaid \$3.8 million of the 2021 Term Loan Credit Facility at par per the terms of the 2021 Term Loan Credit Facility. The dividend and distribution, as applicable, was paid on May 22, 2023 to holders of record of Old Atlas Class A Common Stock and Operating Units, as applicable, as of the close of business on May 15, 2023.

On July 31, 2023, Atlas Operating approved and paid a distribution of \$0.20 per Operating Unit, in the aggregate amount of \$20.0 million, as permitted by the Prior Atlas Operating LLCA, and Old Atlas declared and paid a quarterly base dividend of \$0.15 per share and a quarterly variable dividend of \$0.05 per share of Old Atlas Class A Common Stock. The dividend and distribution, as applicable, was paid on August 17, 2023 to holders of record of Old Atlas Class A Common Stock and Operating Units, as applicable, as of the close of business on August 10, 2023.

In September 2023, Atlas Operating approved a distribution to its unitholders, Old Atlas and Holdings, in the aggregate amount of \$12.6 million for the payment of estimated U.S. federal income tax obligations, as permitted by the Prior Atlas Operating LLCA. To effect the payment of the distribution, Atlas Operating made a distribution of \$7.2 million to Old Atlas, which was remitted to the Internal Revenue Service. The related \$5.4 million pro rata distribution was paid to Holdings.

On October 30, 2023, the Company declared a dividend of \$0.20 per share of New Atlas Common Stock, which included a base dividend of \$0.15 per share and a variable dividend of \$0.05 per share. The dividend was paid on November 16, 2023 to holders of record of New Atlas Common Stock as of the close of business on November 9, 2023.

On February 8, 2024, the Company declared a dividend. See Note 15 – *Subsequent Events* for additional information.

Note 10 – Redeemable Noncontrolling Interest

The redeemable noncontrolling interest represents the Legacy Owners’ historical 42.2% economic interest in Atlas Operating through ownership of Operating Units. In addition, the Legacy Owners historically owned all of Old Atlas’s non-economic Old Atlas Class B Common Stock. Each share of Old Atlas Class B Common Stock entitled its holder to one vote on all matters to be voted on by Old Atlas’s stockholders, generally, but conferred no economic rights to dividends or distributions upon a liquidation or winding up of Old Atlas.

The Legacy Owners’ historical 42.2% economic interest in Atlas Operating through ownership of Operating Units is classified as redeemable noncontrolling interest on the consolidated balance sheets as, pursuant to the Prior Atlas Operating LLCA, holders of Operating Units had the right to cause Atlas Operating to acquire all or a portion of their Operating Units for, at Atlas Operating’s election, (i) shares of Old Atlas Class A Common Stock at a redemption ratio of one share of Old Atlas Class A Common Stock for each Operating Unit redeemed, subject to conversion rate adjustments for stock splits, stock dividends, reclassification and other similar transactions, or (ii) an equivalent amount of cash.

In connection with the Up-C Simplification, each Operating Unit issued and outstanding immediately prior to the Effective Time, other than Operating Units held by Old Atlas, was exchanged for one share of New Atlas Common Stock, and the holders of such Operating Units became stockholders of New Atlas, and all of the Old Atlas Class B Common Stock issued and outstanding immediately prior to the Effective Time were surrendered and cancelled for no consideration. The Up-C Simplification was a common control transaction; therefore, the redeemable noncontrolling interest was acquired as an equity transaction. The redeemable noncontrolling interest was adjusted to the maximum redemption amount based on the 10-day volume-weighted average closing price of shares of Old Atlas Class A Common Stock at the redemption date. The carrying amount of the redeemable noncontrolling interest was reclassified to reflect the change in the Company's ownership interest with an offsetting entry to additional paid-in capital.

From the date of the IPO through the date of the Up-C Simplification, we recorded adjustments to the value of the redeemable noncontrolling interest. Refer to the table below for the balance as of December 31, 2023:

	Redeemable Noncontrolling Interest
Balance at March 13, 2023 (1)	\$ 771,345
Net income attribution post-IPO	66,503
\$0.35/unit distribution to Atlas Operating unitholders	(14,998)
Other distributions to redeemable non-controlling interest unitholders	(7,158)
Redemption of operating units of Atlas Operating for Old Atlas Class A Common Stock	(13,640)
Adjustment of redeemable noncontrolling interest to redemption amount (2)	185,412
Effects of Up-C Simplification	(987,464)
Balance at December 31, 2023	<u>\$ —</u>

(1) Based on the Operating Units held by the Legacy Owners who also held 42,852,499 shares of Old Atlas Class B Common Stock and an Old Atlas Class A Common Stock price of \$18.00 on the date on which we consummated the IPO.

(2) Based on the Operating Units held by the Legacy Owners who also held 42,258,185 shares of Old Atlas Class B Common Stock and an Old Atlas Class A Common Stock 10-day volume-weighted average closing price of \$23.36 on October 2, 2023. In accordance with the Atlas Sand Operating LLC agreement, the redemption is valued at the average of the volume-weighted closing price for each of the 10 consecutive full trading days ending on and including the last full trading day immediately prior, which was September 29th.

Note 11 – Stock-Based and Unit-Based Compensation

Atlas Energy Solutions Inc. Long Term Incentive Plan

On March 8, 2023, we adopted the LTIP for the benefit of employees, directors and consultants of the Company and its affiliates. The LTIP provides for the grant of all or any of the following types of awards: (1) incentive stock options qualified as such under U.S. federal income tax laws; (2) stock options that do not qualify as incentive stock options; (3) stock appreciation rights; (4) restricted stock awards; (5) RSUs; (6) bonus stock; (7) dividend equivalents; (8) other stock-based awards; (9) cash awards; and (10) substitute awards. The shares to be delivered under the LTIP may be made available from (i) authorized but unissued shares, (ii) shares held as treasury stock or (iii) previously issued shares reacquired by us, including shares purchased on the open market.

In connection with the closing of the Up-C Simplification, New Atlas assumed the LTIP as well as the outstanding awards granted under the LTIP, including all awards of RSUs and performance share units, in each case, whether or not vested, that were then outstanding under the LTIP, and each (i) RSU grant notice and RSU agreement and (ii) performance share unit grant notice and performance share unit agreement, in each case, evidencing then-outstanding awards under the LTIP.

In connection with the assumption of the LTIP, the Company also assumed the remaining share reserves available for issuance under the LTIP, subject to applicable adjustments to relate to the New Atlas Common Stock. Subject to adjustment in accordance with the terms of the LTIP, 10,270,000 shares of New Atlas Common Stock have been reserved for issuance pursuant to awards under the LTIP. If an award under the LTIP is forfeited, settled for cash or expires without the actual delivery of shares, any shares subject to such award will again be available for new awards under the LTIP. The LTIP will be administered by the Compensation Committee (the "Compensation Committee") of the board of directors of the Company (the "Board"). On December 31, 2023, 8,135,020 shares of New Atlas Common Stock were available for future grants. We account for the awards granted under the LTIP as compensation cost measured at the fair value of the award on the date of grant.

Restricted Stock Units

RSUs represent the right to receive shares of New Atlas Common Stock at the end of the vesting period in an amount equal to the number of RSUs that vest. RSUs granted to employees vest in three equal installments starting on the first anniversary of the date of grant, and RSUs granted to directors vest on the one-year anniversary of the date of grant, in each case, so long as the award recipient remains continuously employed or continues to provide services to the Board, as applicable. The RSUs are subject to restrictions on transfer and are generally subject to a risk of forfeiture if the award recipient ceases providing services to the Company prior to the date the award vests. If the participant's employment with or service to the Company is terminated for cause or without good reason prior to the vesting of all of the RSUs, and unless such termination is a "Qualifying Termination" or due to a "Change in Control" as defined in the applicable RSU agreement, any unvested RSUs will generally terminate automatically and be forfeited without further notice and at no cost to the Company. In the event the Company declares and pays a dividend in respect of its outstanding shares of New Atlas Common Stock and, on the record date for such dividend, the participant holds RSUs that have not been settled, we will record the amount of such dividend in a bookkeeping account and pay to the participant an amount in cash equal to the cash dividends the participant would have received if the participant was the holder of record, as of such record date, of a number of shares of New Atlas Common Stock equal to the number of RSUs held by the participant that had not been settled as of such record date, such payment to be made on or within 60 days following the date on which such RSUs vest. The stock-based compensation expense of such RSUs was determined using the closing prices on grant date. We account for forfeitures as they occur. We recognized stock-based compensation related to RSUs of \$4.3 million for the year ended December 31, 2023. Changes in non-vested RSUs outstanding under the LTIP during the year ended December 31, 2023 were as follows:

	Number of Units		Weighted Average Grant Date Fair Value
Non-vested at December 31, 2022	—	\$	—
Granted	1,661,173	\$	20.96
Vested	(25,000)	\$	15.99
Forfeited	—	\$	—
Non-vested at December 31, 2023	<u>1,636,173</u>	<u>\$</u>	<u>21.04</u>

There was approximately \$30.5 million of unrecognized compensation expense relating to outstanding RSUs as of December 31, 2023. The unrecognized compensation expense will be recognized on a straight-line basis over the weighted average remaining vesting period of 1.7 years.

Performance Share Units

Performance share units ("PSUs") represent the right to receive one share of New Atlas Common Stock multiplied by the number of PSUs that become earned, and the number of PSUs that may vest range from 0% to 200% of the Target PSUs (as defined in the Performance Share Unit Grant Agreement governing the PSUs (the "PSU Agreement")), subject to the Compensation Committee's discretion to increase the ultimate number of vested PSUs above the foregoing maximum level. Each PSU also includes a tandem dividend equivalent right, which is a right to receive an amount equal to the cash dividends made with respect to a share of New Atlas Common Stock during the Performance Period (as defined in the PSU Agreement), which will be adjusted to correlate to the number of PSUs that ultimately become vested pursuant to the PSU Agreement. 490,167 PSUs (based on target) were granted on March 13, 2023 (the "2023 PSUs"). The Performance Goals (as defined in the PSU Agreement) for the 2023 PSUs are based on a combination of Return on Capital Employed ("ROCE") and "Relative TSR" (each, as defined in the PSU Agreement), with 25% weight applied to ROCE and 75% weight applied to Relative TSR, each as measured during the three-year Performance Period ending December 31, 2025. The vesting level is calculated based on the actual total stockholder return achieved during the Performance Period. The fair value of such PSUs was determined using a Monte Carlo simulation and will be recognized over the applicable Performance Period. The Monte Carlo simulation model utilizes multiple input variables that determine the probability of satisfying the market condition stipulated in the award to calculate the fair value of the award. Expected volatilities in the model were estimated using a historical period consistent with the Performance Period of approximately three years. The risk-free interest rate was based on the United States Treasury rate for a term commensurate with the expected life of the grant. We recognized stock-based compensation related to PSUs of \$2.8 million for the year ended December 31, 2023. Changes in non-vested PSUs outstanding under the LTIP during 2023 were as follows:

	Number of Units		Weighted Average Grant Date Fair Value
Non-vested at December 31, 2022	—	\$	—
Granted	490,167	\$	20.19
Vested	(584)	\$	20.19
Forfeited	(16,360)	\$	20.19
Non-vested at December 31, 2023	<u>473,223</u>	<u>\$</u>	<u>20.19</u>

There was approximately \$6.8 million of unrecognized compensation expense relating to outstanding PSUs as of December 31, 2023. The unrecognized compensation expense will be recognized on a straight-line basis over the weighted average remaining vesting period of 2.0 years.

Atlas LLC Incentive Plan and ASMC Incentive Plan

Prior to the IPO closing date, the Company recognized unit-based compensation expense for awards granted under two long-term incentive plans, the Atlas Sand Management Company, LLC Long-Term Incentive Plan (the “ASMC Plan”) and the Atlas Sand Company, LLC Long-Term Incentive Plan (the “ASCo Plan”). The ASMC Plan was adopted on September 15, 2017, by ASMC for officers, employees, directors, managers and consultants of ASMC (the “ASMC Participants”). The ASCo Plan was adopted by Atlas LLC on December 15, 2017, for officers, employees, directors, managers, consultants or other advisors of Atlas LLC (the “ASCo Participants”).

On May 28, 2018, Atlas LLC adopted the Atlas Sand Company, LLC Amended and Restated Long-Term Incentive Plan that reduced the authorized available awards to be issued under the ASCo Plan from 149,425 to 100,000. The ASCo Plan consists of equity grants of Class P units representing membership interests in Atlas LLC (“Class P units”) made to ASCo Participants at the discretion of the plan administrator. Pursuant to the terms of the ASCo Plan, to the extent that an award was canceled, any and all Class P units that were canceled and repurchased would be available again for new awards under the ASCo Plan.

The Company has applied the guidance of FASB Interpretation 44, which establishes an accounting model whereby equity awards granted by a parent company to employees of a subsidiary are recognized in the financial statements of the subsidiary.

A summary of Atlas LLC’s Class P unit activity is as follows:

	Number of Class P Units		Weighted Average Grant Date Fair Value
Non-vested at December 31, 2021	2,833	\$	151.57
Granted	2,200	\$	151.57
Vested	(1,500)	\$	151.57
Forfeited	—		—
Non-vested at December 31, 2022	3,533	\$	151.57
Granted	—		—
Vested	(3,533)	\$	151.57
Forfeited	—		—
Non-vested at December 31, 2023	—		—

We account for each tranche of the unit awards as compensatory awards in accordance with ASC 718, and as such, compensation expense is recognized over the service condition vesting period based on the grant date fair values using a graded vesting methodology. To determine grant date fair value, we valued these unit awards utilizing a Monte Carlo option pricing model, to take into consideration the probability of a market condition being met. This methodology involves making assumptions for the expected time to liquidity, volatility and risk-free rate.

We estimated expected volatility based on a 50/50 blend of historical and implied volatility. The risk-free interest rate is based on the yield on U.S. government bonds for a period commensurate with the expected term. The expected term is based on time to the expected exit date as of the valuation date based on the probability weighted average of exit scenario terms. We applied a discount to reflect the lack of marketability due to the absence of an active market for the units. Further, we assumed no expected dividend yield.

We recognized \$0.2 million, \$0.4 million, and \$0.1 million of unit-based compensation expense related to awards in the ASCo Plan for the years ended December 31, 2023, 2022, and 2021, respectively.

We recognized \$0.1 million, \$0.2 million, and de minimis of unit-based compensation expense related to awards in the ASMC Plan for the years ended December 31, 2023, 2022, and 2021, respectively.

As of December 31, 2023, there were no unrecognized unit-based compensation expense amounts related to the ASCo Plan and ASMC Plan.

Note 12 – Earnings per Share

Basic earnings per share (“EPS”) measures the performance of an entity over the reporting period. Diluted earnings per share measures the performance of an entity over the reporting period while giving effect to all potentially dilutive shares of common stock that were outstanding during the period. The Company uses the treasury stock method to determine the potential dilutive effect of vesting of its outstanding RSUs and PSUs. The Company does not use the two-class method as the Old Atlas Class B Common Stock, the unvested RSUs, and PSU awards are nonparticipating securities. During 2023, the issuance of Old Atlas Class A Common Stock in exchange for Operating Units held by the Legacy Owners (and their corresponding shares of Old Atlas Class B Common Stock) did not have a dilutive effect on EPS and was not recognized in dilutive earnings per share calculations.

As a result of the Up-C Simplification, the Company’s previous dual class structure was eliminated and the Company now trades under a single class of common stock. Please see Note 2 - *Summary of Significant Accounting Policies -Earnings Per Share* for more information.

There were no shares of common stock outstanding for the year ended December 31, 2022, and therefore no earnings per share information has been presented for that period.

For the year ended December 31, 2023, the Company’s EPS calculation includes only its share of net income for the period subsequent to the IPO, and omits income prior to the IPO. In addition, the basic weighted average shares outstanding calculation is based on the actual days during which the shares were outstanding from the closing date of our IPO through December 31, 2023.

The following table reflects the allocation of net income to common stockholders and EPS computations for the period indicated based on a weighted average number of shares of common stock outstanding for the period (in thousands, except per share data):

	For the Year Ended December 31, 2023	
Numerator:		
Net income	\$	226,493
Less: Pre-IPO net income attributable to Atlas Sand Company, LLC		54,561
Less: Net income attributable to redeemable noncontrolling interest		66,503
Net income attributable to Atlas Energy Solutions Inc.	\$	105,429
Denominator:		
Basic weighted average shares outstanding		70,450
Dilutive potential of restricted stock units		85
Dilutive potential of performance share units		500
Diluted weighted average shares outstanding (1)	\$	71,035
Basic EPS attributable to holders of New Atlas Common Stock	\$	1.50
Diluted EPS attributable to holders of New Atlas Common Stock (1)	\$	1.48

(1) Shares of Old Atlas Class A Common Stock issued in exchange for Operating Units did not have a dilutive effect on EPS and were not included in the EPS calculation.

The basic and diluted EPS for the year ended December 31, 2023, represents only the period from the IPO date to December 31, 2023, which represents the period wherein the Company had outstanding common stock.

Note 13—Income Taxes

The Company’s predecessor, Atlas LLC, was a limited liability company that elected to be treated as a partnership for income tax purposes and, therefore, was not subject to U.S. federal income tax. Rather, the U.S. federal income tax liability with respect to the taxable income of Atlas LLC is passed through to its owners. However, Atlas LLC’s operations located in Texas are subject to an entity-level tax. Texas imposes a franchise tax, commonly referred to as the Texas margin tax, which is considered an income tax, at a rate of 0.75% on gross revenues less certain deductions, as specifically set forth in the Texas margin tax statute. Atlas Inc. is a corporation and is subject to U.S. federal, state and local income taxes. In March 2023, Atlas Inc. completed its initial public offering of 18,000,000 shares of Old Atlas Class A Common Stock at a price to the public of \$18.00 per share. The tax implications of the Reorganization, the IPO and the tax impact of Atlas Inc.’s status as a taxable corporation subject to U.S. federal income tax have been reflected in the accompanying Financial Statements. On March 13, 2023, the date on which the Company closed the IPO, a corresponding deferred tax liability of approximately \$27.5 million was recorded associated with the differences between the tax and book basis of the investment in Atlas LLC. The offset of the deferred tax liability was recorded to additional paid-in capital.

On October 2, 2023, the Company completed the Up-C Simplification. The tax implications of the Up-C Simplification have been reflected in the accompanying Financial Statements. On October 2, 2023, a corresponding deferred tax liability of approximately \$62.7 million was recorded associated with the exchange of the redeemable noncontrolling interest in Old Atlas for shares of New Atlas Common Stock. The offset of the deferred tax liability was recorded to additional paid-in capital.

For the years ending December 31, 2023, 2022, and 2021, the effective combined U.S. federal and state income tax rate was 12.2%, 0.8%, and 16.3% respectively. For the years ending December 31, 2023, 2022, and 2021, the Company recognized an income tax expense of \$31.4 million, \$1.9 million, and \$0.8 million, respectively.

The components of the income tax provision are as follows (in thousands):

	For the Year Ended			
	2023	December 31,		2021
		2022		
Current income tax provision:				
Federal	\$	—	\$	—
State		2,177		471
Total current income tax provision	\$	2,177	\$	471
Deferred income tax provision:				
Federal	\$	28,627	\$	—
State		574		360
Total deferred income tax provision (benefit):	\$	29,201	\$	360
Income tax provision	<u>\$</u>	<u>31,378</u>	<u>\$</u>	<u>831</u>

The effective tax rate on pre-tax income differs from the Federal statutory rate of 21% for the years ended December 31, 2023, 2022, and 2021 due to the following (in thousands, except effective tax rates):

	For the Year Ended			
	2023	December 31,		2021
		2022		
Taxes at federal statutory rate	\$	54,153	\$	1,069
Less: Pre-IPO activity attributable to Atlas Sand Company, LLC		(11,526)		(1,069)
Less: noncontrolling interest		(14,140)		—
State income tax expense		2,173		831
Other		718		—
Income tax expense	<u>\$</u>	<u>31,378</u>	<u>\$</u>	<u>831</u>
Effective tax rate		12.2 %		16.3 %

The tax effects of cumulative temporary differences that give rise to significant deferred tax assets and deferred tax liabilities are presented below (in thousands):

	For the Year Ended			
	2023	December 31,		2022
Deferred tax assets				
Amortizable intangible assets	\$	3,397	\$	—
Net operating loss carryforward		4,255		—
Employee compensation		1,573		—
Other		1,417		—
Total deferred tax assets	\$	10,642	\$	—
Deferred tax liabilities				
Inventories	\$	(2,700)	\$	—
Fixed assets		(85,756)		(165)
Depletable assets		(42,791)		(1,741)
Other		(924)		—
Total deferred tax liabilities		(132,171)		(1,906)
Deferred tax liability, net	<u>\$</u>	<u>(121,529)</u>	<u>\$</u>	<u>(1,906)</u>

Deferred income tax assets and liabilities are recognized for temporary differences between the basis of assets and liabilities for financial reporting and tax purposes. Deferred tax assets are reduced by a valuation allowance if, based on all available evidence, it is more likely than not that some portion or all of the deferred tax asset will not be realized. In determining the need for a valuation allowance, the Company considers all available evidence, both positive and negative, including future reversals of existing taxable temporary differences, future taxable income exclusive of reversing temporary differences and carryforwards, taxable income in carryback years if carryback is permitted by the tax law, and the availability of prudent and feasible tax planning strategies that can be implemented, if necessary, to realize deferred tax assets. While the Company has a limited historical financial information as a standalone C-Corporation, the Company's predecessor has a history of creating pre-tax income in previous periods. The Company is in a substantial cumulative book income position (inclusive of adjustments for permanent differences) which is considered strong positive evidence by which a Company can consider when evaluating the realizability of existing deferred tax assets (including those of a long-term nature). In addition, the Company is currently in an overall deferred tax liability position.

As of December 31, 2023, we have federal net operating loss carryforwards of approximately \$20 million. These losses are limited in usage to 80% of taxable income and can be carried forward indefinitely.

As of December 31, 2023, and December 31, 2022, the Company did not have any liabilities for uncertain tax positions or gross unrecognized tax benefits. Our income tax returns from 2019, 2020, 2021 and 2022 are open to examinations by U.S. federal, state or local tax authorities. The Company cannot predict or provide assurance as to the ultimate outcome of any existing or future examinations.

Note 14 – Related-Party Transactions

Brigham Oil & Gas, LLC

Atlas LLC has sold proppant to a customer, Brigham Oil & Gas, LLC ("Brigham Oil & Gas"), which is controlled by our Executive Chairman and Chief Executive Officer, Bud Brigham. The Company made no sales, \$0.9 million, and \$0.2 million sales to this related party for the years ended December 31, 2023, 2022, and 2021, respectively. As of December 31, 2023 and 2022, we had no outstanding accounts receivable and \$0.9 million of outstanding accounts receivable with Brigham Oil & Gas, respectively.

Brigham Land Management LLC

Brigham Land Management LLC ("Brigham Land") provides us with landman services for certain of our projects and initiatives. The services are provided on a per hour basis at market prices. Brigham Land is owned and controlled by Vince Brigham, an advisor to the Company and the brother of our Executive Chairman and Chief Executive Officer, Bud Brigham. For the years ended December 31, 2023, 2022, and 2021, we made aggregate payments to Brigham Land equal to approximately \$1.0 million, \$1.0 million, and \$0.7 million, respectively. As of December 31, 2023 and 2022, our outstanding accounts payable to Brigham Land were \$0.2 million and \$0.1 million, respectively.

Brigham Earth, LLC

Brigham Earth, LLC ("Brigham Earth") provides us with professional and consulting services as well as access to certain information and software systems. Brigham Earth is owned and controlled by our Executive Chairman and Chief Executive Officer, Bud Brigham. For the years ended December 31, 2023, 2022, and 2021, our aggregate payments to Brigham Earth for these services were approximately \$0.4 million, \$1.2 million, and \$1.1 million, respectively. As of December 31, 2023 and 2022, we had de minimis accounts payable and \$0.1 million outstanding accounts payable to Brigham Earth, respectively.

Anthem Ventures, LLC

Anthem Ventures, LLC ("Anthem Ventures") provides us with transportation services. Anthem Ventures is owned and controlled by our Executive Chairman and Chief Executive Officer, Bud Brigham. For the years ended December 31, 2023, 2022, and 2021, our aggregate payments to Anthem Ventures for these services were approximately \$0.3 million, de minimis, and de minimis, respectively. As of December 31, 2023 and 2022, we had \$0.1 million of outstanding accounts payable and no outstanding accounts payable balance with Anthem Ventures, respectively.

In a Good Mood

In a Good Mood, LLC ("In a Good Mood") provides the Company with access, at cost, to reserved space in the Moody Center in Austin, Texas for concerts, sporting events and other opportunities as a benefit to our employees and for business entertainment. In a Good Mood is owned and controlled by our Executive Chairman and Chief Executive Officer, Bud Brigham. For the years ended December 31, 2023 and 2022, we made payments of approximately \$0.2 million and \$0.2 million, respectively. There were no such payments made during the year ended December 31, 2021 to In a Good Mood for these services. As of December 31, 2023 and 2022, we did not have an outstanding accounts payable balance with this related party.

The Sealy & Smith Foundation

Refer to Note 8 – *Commitments and contingencies* for disclosures related to the Company's royalty agreement and mining agreement with The Sealy & Smith Foundation, a related party.

Reorganization

Refer to Note 1 – *Business and Organization* for disclosures related to the Company’s transactions with affiliates including entities controlled by Bud Brigham in connection with the Reorganization.

Registration Rights Agreement

In connection with the closing of the IPO, we entered into a registration rights agreement with certain Legacy Owners (the “Original Registration Rights Agreement”) covering, in the aggregate, approximately 38.4% of the Old Atlas Class A and Class B Common Stock on a combined basis. Pursuant to the Original Registration Rights Agreement, we agreed to register under the U.S. federal securities laws the offer and resale of shares of Old Atlas Class A Common Stock (including shares issued in connection with any redemption of Operating Units) by such Legacy Owners or certain of their respective affiliates or permitted transferees under the Original Registration Rights Agreement.

On October 2, 2023, the Company entered into an amended and restated registration rights agreement (the “A&R Registration Rights Agreement”) with New Atlas and certain stockholders identified on the signature pages thereto. The A&R Registration Rights Agreement was entered into in order to, among other things, provide for the assumption of Old Atlas’s obligations under the Original Registration Rights Agreement by New Atlas. The A&R Registration Rights Agreement is substantially similar to the Original Registration Rights Agreement, but contains certain administrative and clarifying changes to reflect the transition from a dual class capital structure to a single class of common stock. We will generally be obligated to pay all registration expenses in connection with these registration obligations, regardless of whether a registration statement is filed or becomes effective. These registration rights are subject to certain conditions and limitations.

The foregoing description does not purport to be complete and is qualified in its entirety by reference to the full text of the A&R Registration Rights Agreement, which is attached as Exhibit 4.1 to this Annual Report.

Stockholders’ Agreement

In connection with the closing of the IPO, we entered into a stockholders’ agreement (the “Original Stockholders’ Agreement”) with certain of our Legacy Owners (the “Principal Stockholders”). Among other things, the Original Stockholders’ Agreement provides our Executive Chairman and Chief Executive Officer, Bud Brigham, the right to designate a certain number of nominees for election or appointment to our Board as described below according to the percentage of the Company’s common stock held by such Principal Stockholders.

Pursuant to the Original Stockholders’ Agreement, we are required to take all necessary actions, to the fullest extent permitted by applicable law (including with respect to any fiduciary duties under Delaware law), to cause the election or appointment of the nominees designated by Mr. Brigham or his affiliates, and each of the Principal Stockholders agreed to cause its respective shares of the Company’s common stock to be voted in favor of the election of each of the nominees designated by Mr. Brigham or his affiliates. Mr. Brigham or his affiliates will be entitled to designate the replacement for any of his respective board designees whose board service terminates prior to the end of such director’s term.

In addition, the Original Stockholders’ Agreement provided that for so long as Mr. Brigham or any of his affiliates is entitled to designate any members of our Board, we are required to take all necessary actions to cause each of the audit committee, compensation committee and nominating and corporate governance committee of our Board to include in its membership at least one director designated by Mr. Brigham or his affiliates, except to the extent that such membership would violate applicable securities laws or stock exchange rules.

Furthermore, so long as the Principal Stockholders collectively beneficially own at least a majority of the outstanding shares of our common stock, we have agreed not to take, and will cause our subsidiaries not to take, the following actions (or enter into an agreement to take such actions) without the prior consent of Mr. Brigham or his affiliates, subject to certain exceptions:

- adopting or proposing any amendment, modification or restatement of or supplement to our certificate of incorporation or bylaws;
- increasing or decreasing the size of our Board; or
- issuing any equity securities that will rank senior to our common stock as to voting rights, dividend rights or distributions rights upon liquidation, winding up or dissolution of the Company.

On October 2, 2023, Old Atlas entered into an amended and restated stockholders’ agreement (the “A&R Stockholders’ Agreement”) with New Atlas and certain of the Principal Stockholders. The A&R Stockholders’ Agreement was entered into in order to, among other things, provide for the assumption of Old Atlas’s obligations under the Original Stockholders’ Agreement by New Atlas. The A&R Stockholders’ Agreement is substantially similar to the Original Stockholders’ Agreement, but contains certain administrative and clarifying changes to reflect the transition from a dual class capital structure to a single class of common stock.

The foregoing description is not complete and is qualified in its entirety by reference to the full text of the A&R Stockholders’ Agreement, which is attached as Exhibit 10.1 to this Annual Report.

Up-C Simplification

Refer to Note 1 – *Business and Organization* for disclosures related to the Company’s Up-C Simplification.

Note 15 – Subsequent Events

Dividend

On February 8, 2024, the Company declared a dividend of \$0.21 per share (base dividend of \$0.16 per share and a variable dividend of \$0.05 per share) of New Atlas Common Stock. The dividend will be payable on February 29, 2024 to holders of record of New Atlas Common Stock as of the close of business on February 22, 2024.

Acquisition

On February 26, 2024, Atlas entered into an Agreement and Plan of Merger (the “Merger Agreement”) with Hi-Crush Inc., a Delaware corporation (“Hi-Crush”), pursuant to which Atlas will acquire substantially all of Hi-Crush’s Permian Basin proppant production and North American logistics businesses and operations (the “Hi-Crush Transaction”).

Under the terms and conditions of the Merger Agreement, which has an economic effective time of 11:59 p.m. CT on February 29, 2024, the aggregate consideration to be paid to the Hi-Crush stockholders in the Hi-Crush Transaction will consist of (i) cash consideration of \$150 million at the closing of the Hi-Crush Transaction (the “Closing”), (ii) 9.7 million shares of Atlas’s Common Stock, par value \$0.01 per share, issued at Closing (the “Common Stock,” and such issuance, the “Stock Consideration”), and (iii) a secured PIK toggle seller note in an initial aggregate principal amount of \$125 million with a final maturity date of January 31, 2026 (the “Seller Note”), in each case, subject to customary closing adjustments. Upon consummation of the Hi-Crush Transaction, the Hi-Crush stockholders will collectively own approximately 8.8% of the Company’s outstanding Common Stock. Both the cash consideration and the original principal amount of the Seller Note are subject to revision for customary closing adjustments.

The Merger Agreement and the Hi-Crush Transaction have been unanimously approved by a Special Committee of the Atlas board of directors composed of a majority of independent directors, as well as the boards of directors of both companies. The completion of the Hi-Crush Transaction is subject to the satisfaction or waiver of customary closing conditions, including Hi-Crush’s delivery of a written consent approving the Hi-Crush Transaction signed by Hi-Crush stockholders holding at least 95% of the voting power. The Hi-Crush Transaction is expected to close in the first quarter of 2024.

Debt Agreements

Seller Note

In accordance with the Merger Agreement, Atlas LLC will issue the Seller Note in favor of the Hi-Crush Stockholders in the original aggregate principal amount of \$125 million, subject to customary purchase price adjustments, and payable in cash or in kind, at Atlas LLC’s election. The Seller Note will mature on January 31, 2026, and will bear interest at a rate of 5.00% per annum if paid in cash, or 7.00% per annum if paid in kind. Interest on the Seller Note is payable quarterly in arrears beginning March 29, 2024 through maturity. Atlas LLC’s obligations under the Seller Note will be secured by certain of the assets acquired in connection with the Transaction. The Seller Note will also be unconditionally guaranteed by Atlas on an unsecured basis.

First Amendment to the 2023 ABL Credit Facility

On February 26, 2024, Atlas LLC and certain other subsidiaries of the Company entered into that certain First Amendment to Loan, Security and Guaranty Agreement (the “ABL Amendment”), among Atlas LLC, the subsidiary guarantors party thereto, the lenders party thereto and Bank of America, N.A., as administrative agent (the “ABL Agent”). The ABL Amendment amends that certain Loan, Security and Guaranty Agreement dated as of February 22, 2023 (the “ABL Credit Agreement”), among Atlas LLC, the subsidiary guarantors party thereto from time to time, the lenders party thereto from time to time and the ABL Agent.

Among other things, the ABL Amendment (a) will, subject to certain conditions to be satisfied in connection with the Closing, increase the revolving commitment amount under the ABL Credit Agreement from \$50 million to \$125 million and extend the maturity date of the ABL Credit Agreement from February 22, 2028 to February 26, 2029 and (b) modify certain other terms of the ABL Credit Agreement.

First Amendment to the 2023 Term Loan Credit Facility

On February 26, 2024 the Company, Atlas LLC and certain other subsidiaries of the Company entered into that certain First Amendment to Credit Agreement (the “Term Loan Amendment”), among Company, Atlas LLC, the subsidiary guarantors party thereto, the lenders party thereto and Stonebriar Commercial Finance, LLC, a Delaware limited liability company, as administrative agent (the “Term Agent”). The Term Loan Amendment amends that certain Credit Agreement dated as of July 31, 2023 (the “2023 Term Loan Credit Agreement”) among Atlas LLC, the lenders party thereto from time to time and the Term Agent.

Among other things, the Term Loan Amendment (a) provided an incremental delayed draw term loan facility of \$150 million at an interest rate expected to be approximately 10.5% and (b) modified certain other terms of the 2023 Term Loan Credit Agreement.

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**

As required by Rule 13a-15(b) under the Exchange Act, we have evaluated, under the supervision and with the participation of management, including our principal executive officer and principal financial officer, the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of the end of the period covered by this Annual Report. Our disclosure controls and procedures are designed to provide reasonable assurance that the information required to be disclosed by us in reports that we file or submit under the Exchange Act is accumulated and communicated to management, including our principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosure and is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC. Based upon that evaluation, our principal executive officer and principal financial officer concluded that our disclosure controls and procedures were effective as of December 31, 2023 at a level of reasonable assurance.

Management’s Annual Report on Internal Control over Financial Reporting

This Annual Report does not include a report of management’s assessment regarding internal control over financial reporting or an attestation report of the Company’s registered public accounting firm due to a transition period established by rules of the SEC for newly public companies.

Changes in Internal Control Over Financial Reporting

We will not be required to make our first assessment of the effectiveness of our internal control over financial reporting under Section 404 of the Sarbanes-Oxley Act until our Annual Report on Form 10-K for the fiscal year ended December 31, 2024. Further, our independent registered public accounting firm is not yet required to formally attest to the effectiveness of our internal controls over financial reporting and will not be required to do so for as long as we are an “emerging growth company” pursuant to the provisions of the JOBS Act. Please see the section titled “*Management’s Discussion and Analysis of Financial Condition and Results of Operations—Emerging Growth Company Status*” for more information.

Limitations on Effectiveness of Controls and Procedures

In designing and evaluating our disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. In addition, the design of disclosure controls and procedures must reflect the fact that there are resource constraints and that management is required to apply judgment in evaluating the benefits of possible controls and procedures relative to their costs. Our management, including our Chief Executive Officer and Chief Financial Officer, believe that our disclosure controls and procedures and internal control over financial reporting are designed to provide reasonable assurance of achieving their objectives and are effective at the reasonable assurance level. However, our management does not expect that our disclosure controls and procedures or our internal control over financial reporting will prevent all errors and all fraud.

Item 9B. Other Information.**Trading Plans**

During the year ended December 31, 2023, no director or officer of the Company adopted or terminated a “Rule 10b5-1 trading arrangement” or “non-Rule 10b5-1 trading arrangement,” as each term is defined in Item 408(a) of Regulation S-K.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections.

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance.

The information required by this item (and only such information) is incorporated by reference to our Definitive Proxy Statement for our 2024 Annual Meeting of Shareholders to be filed with the SEC within 120 days of December 31, 2023 ("Proxy Statement").

Item 11. Executive Compensation.

The information required by this item (and only such information) is incorporated by reference to our Proxy Statement.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

The information required by this item (and only such information) is incorporated by reference to our Proxy Statement.

Item 13. Certain Relationships and Related Transactions, and Director Independence.

The information required by this item (and only such information) is incorporated by reference to our Proxy Statement.

Item 14. Principal Accounting Fees and Services.

The information required by this item (and only such information) is incorporated by reference to our Proxy Statement.

PART IV

Item 15. Exhibits, Financial Statement Schedules.

(a) The following documents are filed as part of this Annual Report on Form 10-K:

(1) Financial Statements

Reference is made to Part II, Item 8 of this Annual Report on Form 10-K.

(2) Financial Statement Schedules

The financial statement schedules have been omitted because they are either not required, not applicable or the information required to be presented is included in the Company's consolidated financial statements and notes thereto.

(3) Exhibits

The exhibits required to be filed or furnished pursuant to Item 601 of Regulation S-K are set forth below.

Exhibit Index

Exhibit Number	Description
2.1	Master Reorganization Agreement, dated as of March 8, 2023, by and among Atlas Energy Solutions Inc., Atlas Sand Management Company, LLC, Atlas Sand Company, LLC, Atlas Sand Holdings, LLC, Atlas Sand Operating, LLC, Atlas Sand Holdings II, LLC, Atlas Sand Management Company II, LLC and Atlas Sand Merger Sub, LLC (incorporated by reference to Exhibit 2.1 to our predecessor's Current Report on Form 8-K (Commission File No. 001-41640) filed on March 8, 2023).
2.2	Master Reorganization Agreement, dated as of July 31, 2023 by and among Atlas Energy Solutions Inc., Atlas Sand Operating, LLC, New Atlas HoldCo Inc., AESI Merger Sub Inc., Atlas Operating Merger Sub, LLC and Atlas Sand Holdings, LLC (incorporated by reference to Exhibit 2.1 to the Registrant's Current Report on Form 8-K (Commission File No. 001-41640) filed on August 1, 2023).
3.1	Amended and Restated Certificate of Incorporation of the Company, as filed with the Secretary of State of the State of Delaware on October 2, 2023 (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K (Commission File No. 001-41828) filed on October 3, 2023).
3.2	Amended and Restated Bylaws of the Company, effective as of October 2, 2023 (incorporated by reference to Exhibit 3.2 to the Registrant's Current Report on Form 8-K (Commission File No. 001-41828) filed on October 3, 2023).
4.1	Amended and Restated Registration Rights Agreement, dated October 2, 2023, by and between the Company, Old Atlas, and the signatories thereto (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K (Commission File No. 001-41828) filed on October 3, 2023).
4.2*	Description of Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934.
10.1	Amended and Restated Stockholders' Agreement, dated October 2, 2023, by and between the Company, Old Atlas, and the signatories thereto (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q (Commission File No. 001-41828) filed on October 31, 2023).
10.2	Second Amended and Restated Limited Liability Company Agreement of Atlas Sand Operating, LLC, dated as of October 2, 2023 (incorporated by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K (Commission File No. 001-41828) filed on October 3, 2023).
10.3†	Atlas Energy Solutions Inc. 2023 Long Term Incentive Plan (incorporated by reference to Exhibit 10.3 to our predecessor's Current Report on Form 8-K (Commission File No. 001-41640) filed on March 8, 2023).
10.4†	Form of Performance Share Unit Grant Agreement incorporated by reference to Exhibit 10.1 to our predecessor's Current Report on Form 8-K (Commission File No. 001-41640) filed on March 17, 2023).
10.5†	Form of Restricted Stock Unit Grant Notice (Officers) (incorporated by reference to Exhibit 10.2 to our predecessor's Current Report on Form 8-K (Commission File No. 001-41640) filed on March 17, 2023).
10.6†	Form of Restricted Stock Unit Grant (Directors) (incorporated by reference to Exhibit 10.3 to our predecessor's Current Report on Form 8-K (Commission File No. 001-41640) filed on March 17, 2023).
10.7*†	Atlas Energy Solutions Inc. Management Change in Control Severance Plan.
10.8	Loan, Security and Guaranty Agreement, dated as of February 22, 2023, among Atlas Sand Company, LLC, as Borrower, certain of its subsidiaries, as Guarantors, Bank of America, N.A., as Agent and Bank of America, N.A., as Sole Lead Arranger and Sole Bookrunner (incorporated by reference to Exhibit 10.5 to our predecessor's Registration Statement on Form S-1/A (Registration No. 333-269488) filed on February 24, 2023).
10.9	Credit Agreement, dated as of July 31, 2023, by and between Atlas Sand Company, LLC, as borrower, and Stonebriar Commercial Finance LLC, as lender (incorporated by reference to Exhibit 10.1 to our predecessor's Current Report on Form 8-K (Commission File No. 001-41640) filed on July 31, 2023).
10.10	Mining Lease Agreement, dated as of December 15, 2017, by and between the Sealy & Smith Foundation and Atlas Sand Company, LLC (incorporated by reference to Exhibit 10.12 to our predecessor's Registration Statement on Form S-1/A (Registration No. 333-269488) filed on February 8, 2023).
10.11	Form of Indemnification (incorporated by reference to Exhibit 10.3 to the Registrant's Current Report on Form 8-K (Commission File No. 001-41828) filed on October 3, 2023).
21.1*	List of subsidiaries of Atlas Energy Solutions Inc.
23.1*	Consent of John T. Boyd Company.
23.2*	Consent of Ernst & Young LLP.
31.1*	Certification of Principal Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	Certification of Principal Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1*	Certification of Principal 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 Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

<u>95.1*</u>	<u>Mine Safety Disclosures.</u>
<u>96.1</u>	<u>John T. Boyd Company Summary of Reserves at December 31, 2021 (incorporated by reference to Exhibit 99.1 to our predecessor's Registration Statement on Form S-1 (Registration No. 333-269488) filed on January 31, 2023).</u>
<u>96.2</u>	<u>Addendum to Summary Reserve Report of John T. Boyd Company as of December 31, 2022. (incorporated by reference to Exhibit 99.2 to our predecessor's Registration Statement on Form S-1/A (Registration No. 333-269488) filed on February 15, 2023).</u>
<u>96.3*</u>	<u>John T. Boyd Company Summary of Reserves at December 31, 2023.</u>
<u>97.1*</u>	<u>Atlas Energy Solutions Inc. Clawback Policy.</u>
101.INS*	Inline XBRL Instance Document – the instance document does not appear in the Interactive Data File because XBRL tags are embedded within the Inline XBRL document
101.SCH*	Inline XBRL Taxonomy Extension Schema With Embedded Linkbase Documents
104*	Cover page formatted as Inline XBRL and contained in Exhibit 101

* Filed herewith

†Compensatory plan or arrangement

Item 16. Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended, the Registrant has duly caused this Annual Report to be signed on its behalf by the undersigned, thereunto duly authorized.

ATLAS ENERGY SOLUTIONS INC.

Date: February 27, 2024

By: /s/ John Turner
John Turner
President and Chief Financial Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, this Annual Report has been signed below by the following persons on behalf of the Registrant in the capacities and on the dates indicated.

Name	Title	Date
/s/ Ben M. Brigham Ben M. Brigham	Executive Chairman and Chief Executive Officer (Principal Executive Officer)	February 27, 2024
/s/ John Turner John Turner	President and Chief Financial Officer (Principal Accounting and Financial Officer)	February 27, 2024
/s/ Gayle Burleson Gayle Burleson	Director	February 27, 2024
/s/ Stacy Hock Stacy Hock	Director	February 27, 2024
/s/ Mike Howard Mike Howard	Director	February 27, 2024
/s/ A. Lance Langford A. Lance Langford	Director	February 27, 2024
/s/ Mark P. Mills Mark P. Mills	Director	February 27, 2024
/s/ Douglas Rogers Douglas Rogers	Director	February 27, 2024
/s/ Robb L. Voyles Robb L. Voyles	Director	February 27, 2024

DESCRIPTION OF CAPITAL STOCK

Atlas Energy Solutions Inc. (“Atlas” or the “Company”) is incorporated in the State of Delaware. The rights of stockholders of Atlas are generally governed by Delaware law, as well as Atlas’s Amended and Restated Certificate of Incorporation (the “Charter”) and Amended and Restated Bylaws (the “Bylaws”). The following description of Atlas’s common stock, par value \$0.01 per share (“Common Stock”), and Atlas’s preferred stock, par value \$0.01 per share (“Preferred Stock”), is a summary and is qualified in its entirety by reference to the Charter and Bylaws.

General

Atlas’s authorized capital stock consists of 2,000,000,000 shares of stock, comprising: 1,500,000,000 shares of Common Stock and 500,000,000 shares of Preferred Stock. Unless Atlas’s board of directors (the “Atlas Board”) determines otherwise, Atlas issues all shares of its capital stock in uncertificated form.

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 Common Stock are entitled to ratably receive dividends when and if declared by the Atlas Board 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.

Liquidation Rights

Upon Atlas’s 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 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 Atlas. There are no redemption or sinking fund provisions applicable to the Common Stock. All outstanding shares of Common Stock are fully paid and non-assessable.

Lock-Up Provisions

The Charter provides that, subject to customary exceptions, any shares of Common Stock held by the Legacy Owners (as defined in the Charter) may not be sold, pledged, transferred or otherwise disposed of during the Lock-Up Period (as defined in the Charter) without prior written consent. Following the expiration of such lock-up restrictions, the Legacy Owners, subject to compliance with the Securities Act of 1933, as amended (the “Securities Act”), or exceptions therefrom, will be able to freely trade their Common Stock.

Preferred Stock

The Charter authorizes the Atlas Board, subject to any limitations prescribed by law, without further stockholder approval, to establish and issue from time to time one or more classes or series of Preferred Stock covering up to an aggregate of 500,000,000 shares. Each class or series of Preferred Stock will cover the number of shares and will have the powers, preferences, rights, qualifications, limitations and restrictions determined by the Atlas Board, which may include, among others, dividend rights, liquidation preferences, voting rights, conversion rights, preemptive rights and redemption rights. Except as provided by law or in a preferred stock designation, the holders of Preferred Stock will not be entitled to vote at or receive notice of any meeting of stockholders.

Anti-Takeover Effects of Provisions of Delaware Law and Atlas's Organizational Documents

Charter and Bylaws

Provisions of the Charter and Bylaws may delay or discourage transactions involving an actual or potential change in control or change in Atlas's management, including transactions in which stockholders might otherwise receive a premium for their shares or transactions that Atlas stockholders might otherwise deem to be in their best interests.

Among other things, the Charter and Bylaws have:

- established advance notice procedures regarding stockholder proposals relating to the nomination of candidates for election as directors or new business to be brought before meetings of the stockholders. These procedures provide that notice of stockholder proposals must be timely given in writing to Atlas's corporate secretary prior to the meeting at which the action is to be taken. Generally, to be timely, notice must be received at Atlas's 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.
 - provided the Atlas Board the ability to authorize undesignated Preferred Stock. This ability makes it possible for the Atlas Board 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 Atlas. These and other provisions may have the effect of deterring hostile takeovers or delaying changes in control or management of Atlas.
 - provided that subject to the rights of the holders of any series of Preferred Stock to elect directors under specified circumstances and the terms of the Amended and Restated Stockholders' Agreement, dated October 2, 2023, by and between Atlas, AESI Holdings Inc., a Delaware corporation (f/k/a Atlas Energy Solutions Inc.), and the parties signatory thereto (the "A&R Stockholders' Agreement"), the authorized number of directors may be changed only by resolution of the Atlas Board.
 - provided 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, and subject to the terms of the A&R Stockholders' Agreement, be filled by the affirmative vote of a majority of directors then in office, even if such directors constitute less than a quorum.
 - provided that, subject to the terms of the A&R Stockholders' Agreement, the Bylaws can be amended or repealed at any regular or special meeting of stockholders or by the Atlas Board.
 - provided that, prior to the Trigger Date (such term as defined in the Charter), any action required or permitted to be taken by the stockholders at any annual or special meeting of stockholders may be taken without a meeting, without prior notice and without a vote of stockholders if a consent or consents setting forth the action to be taken is or are signed by the holders of outstanding stock having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote thereon were present and voted and is or are delivered to Atlas. On or after the Trigger Date, 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.
 - provided that, subject to the terms of the A&R Stockholders' Agreement, each of the Charter and Bylaws may be amended by the affirmative vote of the holders of at least two-thirds of then-outstanding Common Stock on or after the Trigger Date, and prior to such time, each of the Charter and Bylaws may be amended by the affirmative vote of the holders of a majority of the then-outstanding Common Stock.
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- provided that special meetings of our stockholders may only be called by the Atlas Board (pursuant to a resolution adopted by a majority of the Atlas Board), the chief executive officer or the chairman of the Atlas Board on or after the Trigger Date, and prior to such time, a special meeting may also be called at the request of the stockholders holding a majority of the outstanding shares entitled to vote.
- provided for the Atlas Board 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 that 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 Atlas because it generally makes it more difficult for stockholders to replace a majority of the directors.
- provided that, subject to the terms of the A&R Stockholders' Agreement, the affirmative vote of the holders of at least 66 2/3% of the voting power of all then-outstanding Atlas capital stock entitled to vote generally in the election of directors, voting together as a single class, shall be required to remove any or all of the directors from office and such removal may only be for cause.

Authorized but Unissued Capital Stock

The Delaware General Corporation Law (the "DGCL") does not require stockholder approval for any issuance of authorized shares. However, the listing requirements of the New York Stock Exchange ("NYSE"), which would apply so long as the Common Stock remains listed on the NYSE, require stockholder approval of certain issuances equal to or exceeding 20% of the then outstanding voting power or then-outstanding number of shares of Common Stock. These additional shares may be used for a variety of corporate purposes, including future public offerings, to raise additional capital or to facilitate acquisitions.

One of the effects of the existence of unissued and unreserved Common Stock or Preferred Stock may be to enable the Atlas Board to issue shares to persons friendly to current management, which issuance could render more difficult or discourage an attempt to obtain control of Atlas by means of a merger, tender offer, proxy contest or otherwise, and thereby protect the continuity of management and possibly deprive the stockholders of Atlas of opportunities to sell their shares of Common Stock at prices higher than prevailing market prices.

Anti-Takeover Provisions under Section 203 of the Delaware General Corporation Law

Section 203 of the DGCL ("Section 203"), subject to certain exceptions set forth therein, prohibits a Delaware corporation from engaging in any business combination (as defined in Section 203) with any interested stockholder (as defined in Section 203) for a period of three years following the date that the stockholder became an interested stockholder, unless:

- the business combination or the transaction that resulted in the stockholder becoming an interested stockholder 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.

A corporation may elect not to be subject to Section 203. Under the Charter, Atlas has elected not to be governed by or subject to the provisions of Section 203.

Designation Rights

Among other things, the A&R Stockholders' Agreement provides the right to designate nominees for election to the Atlas Board as follows:

- so long as the Principal Stockholders (as defined in the A&R Stockholders' Agreement) collectively beneficially own greater than 50% of the Common Stock, Ben M. Brigham, the Company's Executive Chairman and Chief Executive Officer, or his affiliates will have the right to determine the size of the Atlas Board and designate all members of the Atlas Board, including the right to designate all individuals to be included in the slate of directors to be nominated by the Atlas Board for election by the stockholders of Atlas;
- so long as the Principal Stockholders collectively beneficially own at least 35% but not greater than 50% of the Common Stock, Mr. Brigham or his affiliates will have the right to designate four members of the Atlas Board, including the right to designate four individuals to be included in the slate of directors to be nominated by the Atlas Board for election by the stockholders of Atlas;
- so long as the Principal Stockholders collectively beneficially own at least 25% but not greater than 35% of the Common Stock, Mr. Brigham or his affiliates will have the right to designate three members of the Atlas Board, including the right to designate three individuals to be included in the slate of directors to be nominated by the Atlas Board for election by the stockholders of Atlas;
- so long as the Principal Stockholders collectively beneficially own at least 10% but not greater than 25% of the Common Stock, Mr. Brigham or his affiliates will have the right to designate two members of the Atlas Board, including the right to designate two individuals to be included in the slate of directors to be nominated by the Atlas Board for election by the stockholders of Atlas; and
- so long as the Principal Stockholders collectively beneficially own at least 5% but not greater than 10% of the Common Stock, Mr. Brigham or his affiliates will have the right to designate one member of the Atlas Board, including the right to designate one individual to be included in the slate of directors to be nominated by the Atlas Board for election by the stockholders of Atlas.

Additionally, each of the Principal Stockholders will agree to cause its respective shares of Common Stock to be voted in favor of the election of each of the nominees designated by Mr. Brigham or his affiliates. These provisions may have the effect of deferring, delaying or discouraging hostile takeovers, or changes in control of us or our management.

Corporate Opportunity

Under the Charter, to the extent permitted by law:

- the Principal Stockholders and their affiliates, and any member of the Atlas Board that is not also an officer of Atlas, have the right to, and have no duty to abstain from exercising such right to, conduct business with any business that is competitive or in the same line of business as we are, do business with any of our clients or customers, or invest or own any interest publicly or privately in, or develop a business relationship with, any business that is competitive or in the same line of business as we are;
 - if the Principal Stockholders or their affiliates, or any member of the Atlas Board that is not also an officer of Atlas, acquire knowledge of a potential transaction that could be a corporate opportunity, they have no duty to offer such corporate opportunity to us; and
 - Atlas has renounced any interest or expectancy in, or in being offered an opportunity to participate in, such corporate opportunities.
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Forum Selection

The Charter provides that unless Atlas consents in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware (or, if the Court of Chancery of the State of Delaware does not have jurisdiction, the Superior Court of the State of Delaware, or, if the Superior Court of the State of Delaware does not have jurisdiction, the United States District Court for the District of Delaware, in each case, subject to that court having personal jurisdiction over the indispensable parties named defendants therein) will, to the fullest extent permitted by applicable law, be the sole and exclusive forum for any stockholder (including a beneficial owner) to bring:

- any derivative action or proceeding brought on Atlas's behalf;
- any action asserting a claim for a breach of a fiduciary duty owed by any of Atlas's directors, officers, employees or stockholders to Atlas or its stockholders;
- any action asserting a claim arising pursuant to any provision of the DGCL, the Charter or the Bylaws (as either may be amended or restated), or as to which the DGCL confers jurisdiction to the Court of Chancery of the State of Delaware, the Charter or Bylaws; or
- any other action asserting a claim against Atlas that is governed by the internal affairs doctrine.

The Charter also provides that, unless Atlas consent in writing to an alternate forum, to the fullest extent permitted by applicable law, the federal district courts of the United States will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act. Notwithstanding the foregoing, the exclusive forum provision will not apply to suits brought to enforce any liability or duty created by the Securities Exchange Act of 1934, as amended, or any other claim for which the federal courts have exclusive jurisdiction. While the Delaware courts have determined that such choice of forum provisions are facially valid, a stockholder may nevertheless seek to bring a claim in a venue other than those designated in the exclusive-forum provisions, and there can be no assurance that such provisions will be enforced by a court in those other jurisdictions. If a court were to find the exclusive-forum provisions contained in the Charter to be inapplicable or unenforceable in an action, Atlas may incur additional costs associated with resolving such action in other jurisdictions, which could harm our business.

Limitation of Liability and Indemnification Matters

The Charter limits the liability of Atlas's directors for monetary damages for breach of their fiduciary duty as directors, except for liability that cannot be eliminated under the DGCL. Delaware law provides that directors of a company will not be personally liable for monetary damages for breach of their fiduciary duty as directors, except for liabilities:

- for any breach of their duty of loyalty to Atlas or its stockholders;
- for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law;
- for unlawful payment of dividend or unlawful stock repurchase or redemption, as provided under Section 174 of the DGCL; or
- for any transaction from which the director derived an improper personal benefit.

Any amendment, repeal or modification of these provisions will be prospective only and would not affect any limitation on liability of a director for acts or omissions that occurred prior to any such amendment, repeal or modification.

The Bylaws also provides that Atlas indemnify its directors and officers to the fullest extent permitted by Delaware law. The Atlas Bylaws also permits us to purchase insurance on behalf of any officer, director, employee or other agent for any liability arising out of that person's actions as Atlas's officer, director, employee or agent, regardless of whether Delaware law would permit indemnification.

Listing of Common Stock

The Common Stock is listed on the NYSE under the symbol "AESL."

Atlas Energy Solutions Inc.
Management Change in Control Severance Plan

ARTICLE I
PURPOSE

This Atlas Energy Solutions Inc. Management Change in Control Severance Plan has been established by the Company on May 22, 2023 (the “**Effective Date**”) to provide Participants with the opportunity to receive severance protection in connection with a Change in Control of the Company. The purpose of the Plan is to attract and retain talent and to assure the present and future continuity, objectivity, and dedication of management in the event of any Change in Control to maximize the value of the Company on a Change in Control. The Plan is intended to be a top hat welfare benefit plan under ERISA.

Capitalized terms used but not otherwise defined herein have the meanings set forth in Article II.

ARTICLE II
DEFINITIONS

Section 2.01 “Administrator” means the Compensation Committee of the Board or any other person or committee appointed by the Board to administer the Plan.

Section 2.02 “Affiliate” means any person that directly or indirectly through one or more intermediaries, controls, is controlled by, or is under common control with, the Company and any predecessors to such entity; *provided, however*, that a natural person shall not be considered an Affiliate.

Section 2.03 “Board” means the Board of Directors of the Company.

Section 2.04 “Cause” means:

- (a) Participant’s breach of any provisions of this Plan, or any other written agreement between the Participant and the Company, including the Participant’s breach of any representation, warranty, or covenant made under any such agreement;
- (b) Participant’s material breach of any policy or code of conduct established by the Company and applicable to the Participant;
- (c) Participant’s violation of any law applicable to the workplace (including any law regarding anti-harassment, anti-discrimination, or anti-retaliation);

(d) Participant's gross negligence, willful misconduct, breach of fiduciary duty, fraud, theft, or embezzlement;

(e) The commission by the Participant of, or conviction or indictment of the Participant for, or plea of *nolo contendere* by the Participant to, any felony (or state-law equivalent) or any crime involving moral turpitude; or

(f) Participant's willful failure or refusal, other than due to Disability to: (i) perform Participant's obligations pursuant to this Plan or any other agreement with the Company; or (ii) follow any lawful directive from the Company, each as determined by the Company; *provided, however*, that if the Participant's actions or omissions as set forth in this Section 2.04(g) are of such a nature that the Company determines that they are curable by the Participant, such actions or omissions must remain uncured thirty (30) days after the Company first provided the Participant written notice of the obligation to cure such actions or omissions.

Section 2.05 "Change in Control" has the same meaning of a "Change in Control" or similar term within the Company's then-current LTIP.

Section 2.06 "Change in Control Multiplier" shall be the number assigned to each Eligible Person on Appendix A attached hereto in order to calculate his or her Change in Control Severance.

Section 2.07 "Change in Control Severance" has the meaning set forth in Section 4.02(a).

Section 2.08 "COBRA" means the Consolidated Omnibus Budget Reconciliation Act of 1985.

Section 2.09 "Code" means the Internal Revenue Code of 1986, as amended. Any reference to a section of the Code shall be deemed to include a reference to any regulations promulgated thereunder.

Section 2.10 "Company" means Atlas Energy Solutions Inc. a Delaware corporation, and any successor thereto.

Section 2.11 "Confidentiality Agreement" has the meaning set forth in Section 6.01.

Section 2.12 "Confidential Information" refers to an item of information, or a compilation of information, in any form (tangible or intangible), related to the business of the Company that the Company and its Affiliates have not made public or authorized public disclosure of, and that is not generally known to the public through proper means including, but not limited to, knowledge, information and materials about: technical data, know-how, innovations, computer programs, un-patented inventions, and trade secrets; methods of operation and operational data and techniques; customer lists, customer or client data, preferences, and purchasing histories; nonpublic information regarding products and services; know-how, formulations, research and development, including information regarding discoveries, new products or services not yet released to the public; the Company's and its Affiliates' programs to minimize environmental and occupational hazards and health and safety risks; business plans; and confidential information about strategic, financial, marketing, pricing, human resources information obtained from a confidential personnel file (such as internal evaluations of the performance, capability and potential of any employee of the Company or its Affiliates) and other proprietary matters relating to the Company and its Affiliates. Confidential Information does not include information lawfully acquired by a non-management employee about wages, hours or other terms and conditions of non-management employees if used by them

for purposes protected by §7 of the National Labor Relations Act (the NLRA) such as joining or forming a union, engaging in collective bargaining, or engaging in other concerted activity for their mutual aid or protection.

Section 2.13 “Covered Period” means the period of time beginning six (6) months prior to the occurrence of a Change in Control and lasting through the eighteen (18)-month anniversary of the occurrence of the Change in Control.

Section 2.14 “Disability” means with respect to any Participant, a condition such that the Participant by reason of physical or mental disability becomes unable to perform his or her normal duties for more than 180 days in the aggregate (excluding infrequent or temporary absence due to ordinary transitory illness) during any twelve (12)-month period.

Section 2.15 “Effective Date” has the meaning set forth in Article I.

Section 2.16 “Eligible Employee” means any member of the management team that the Board has appointed as of the Effective Date and as documented on Appendix A; *provided, however*, that any member of the management team who has previously entered into an individual employment agreement with the Company is excluded from participating in this Plan.

Section 2.17 “ERISA” means the Employee Retirement Income Security Act of 1974, as amended.

Section 2.18 “Good Reason” means:

- (a) An adverse change in the Participant’s title, duties or responsibilities (including reporting responsibilities);
- (b) A reduction in the Participant’s base salary;
- (c) A relocation of the Participant’s primary work location to a distance of more than fifty (50) miles from its location as of immediately prior to such change; or
- (d) A material breach by the Company of any of its obligations under this Plan.

The Company and the Participant agree that Good Reason does not exist unless and until the Participant provides the Company with written notice of the acts alleged to constitute Good Reason within ninety (90) days of the Participant’s knowledge of the occurrence of such event, and the Company fails to cure such acts within thirty (30) days of receipt of such notice. Participant must terminate employment within sixty (60) days following the expiration of such cure period for the termination to be on account of Good Reason.

Section 2.19 “LTIP” means the Atlas Energy Solutions Inc. Long Term Incentive Plan, as amended, or any successor or replacement plan.

Section 2.20 “Participant” has the meaning set forth in Section 3.01.

Section 2.21 “Participation Agreement” means the latest participation agreement delivered by the Company to a Participant informing the Eligible Employee of the Eligible Employee’s participation in the Plan and containing any terms and conditions that may be applicable to the Eligible Employee in addition to or contrary to the terms of this Plan.

Section 2.22 “Plan” means this Atlas Energy Solutions Inc. Management Change in Control Severance Plan, as may be amended and/or restated from time to time.

Section 2.23 “Qualifying Termination” means the termination of a Participant’s employment for either:

(a) by the Company without Cause; or

(b) by the Participant for Good Reason.

For purposes of clarity, a termination due to death or Disability shall not be deemed to be a Qualifying Termination pursuant to this Plan.

Section 2.24 “Release” has the meaning set forth in Section 5.01(b).

Section 2.25 “Release Expiration Date” means that date that is twenty-one (21) days following the date upon which the Company delivers the Release to the Employee (which shall occur no later than seven (7) days after the Participant’s Termination Date) or, in the event that such termination of employment is “in connection with an exit incentive or other employment termination program” (as such phrase is defined in the Age Discrimination in Employment Act of 1967), the date that is forty-five (45) days following such delivery date.

Section 2.26 “Severance” has the meaning set forth in Section 4.01(a).

Section 2.27 “Severance Benefits” shall mean, as the context requires, the amounts to be paid pursuant to Article IV.

Section 2.28 “Severance Multiplier” shall be the number assigned to each Eligible Person on Appendix A attached hereto in order to calculate his or her Severance.

Section 2.29 “Specified Employee Payment Date” has the meaning set forth in Section 10.13(b).

**ARTICLE III
PARTICIPATION**

Section 3.01 Participants. The Administrator shall designate and provide written notice to each Eligible Employee chosen by the Administrator to participate in the Plan (each, a “**Participant**”). Appendix A of the Plan, as it may be updated from time to time by the Administrator, shall at all times contain a current list of Participants. Updates to Appendix A shall not require an amendment of the Plan and the Administrator has the ability to amend or modify Appendix A at any time without Participant consent.

**ARTICLE IV
SEVERANCE BENEFITS**

Section 4.01 Severance. If a Participant has a Qualifying Termination outside of a Covered Period or experiences a termination of employment due to the Participant’s death or Disability (whether or not in connection with a Covered Period), then, subject to Article V, the Company will provide the Participant with the following:

(a) A cash severance payment calculated by multiplying the Participant’s Severance Multiplier by the aggregate amount of the Participant’s base salary and target cash bonus amount for the year in which the applicable termination occurs (the “**Severance**”). The Severance will be paid in a lump sum within sixty (60) days following the date of such Qualifying Termination.

(b) A lump-sum cash payment equal to the pro-rated amount of the Participant’s target cash bonus award set for the year in which the applicable Qualifying Termination occurs, pro-rated on a daily basis for the applicable calendar year and paid in a lump sum within sixty (60) days following the date of such Qualifying Termination.

(c) If the Participant elects to continue coverage for the Participant and the Participant’s spouse and eligible dependents, if any, under the Company’s group health plans pursuant to COBRA, then the Company shall provide the Participant with a lump-sum cash payment equal to the difference between the amount Employee is estimated to pay to effect and continue such coverage and the employee contribution amount that similarly situated employees of the Company pay for the same or similar coverage under such group health plans for a period of eighteen (18) months (the “**COBRA Benefit**”).

(i) The COBRA Benefit shall be paid to the Participant in a lump sum within sixty (60) days following the date of the applicable Qualifying Termination event.

(ii) Notwithstanding the foregoing, if the provision of the benefits described in this paragraph cannot be provided in the manner described above without penalty, tax, or other adverse impact on the Company, then the Company and the Participant shall negotiate in good faith to determine an alternative manner in which the Company may provide substantially equivalent benefits to the Participant without such adverse impact on the Company.

(d) Payment or reimbursement, as applicable, of (i) earned but unpaid base salary as of the date of the applicable termination; (ii) all incurred but unreimbursed expenses for which the Participant is entitled to reimbursement; and (iii) benefits to which Employee is entitled under the terms of any applicable Company benefit plan or program (collectively, the “**Accrued Benefits**”). Any amounts due to the Participant pursuant to clause (i) of this paragraph shall be paid in a lump sum within sixty (60) days following the applicable termination date; amounts due pursuant to clauses (ii) or (iii) will be paid in accordance with the terms of the applicable plan, policy, or arrangement to which they relate.

Section 4.02 Change in Control Severance. If a Participant has a Qualifying Termination during the Covered Period, then, subject to Article V, the Company will provide the Participant with the following:

(a) A cash severance payment calculated by multiplying the Participant’s Severance Multiplier by the aggregate amount of the Participant’s base salary and target cash bonus amount for the year in which the applicable termination occurs (together, the “**Change in Control Severance**”). The Change in Control Severance will be paid in a lump sum within sixty (60) days following the later to occur of (i) the date of such Qualifying Termination; or (ii) the date of the Change in Control.

(b) A lump-sum cash payment equal to the amount of the Participant’s target cash bonus award set for the year in which the applicable Qualifying Termination occurs paid in a lump sum within sixty (60) days following the later to occur of (i) the date of such Qualifying Termination; or (ii) the date of the Change in Control.

(c) If the Participant elects to continue coverage for the Participant and the Participant’s spouse and eligible dependents, if any, under the Company’s group health plans pursuant to COBRA, then the Company shall provide the Participant with a lump-sum cash payment equal to the difference between the amount Employee is estimated to pay to effect and continue such coverage and the employee contribution amount that similarly situated employees of the Company pay for the same or similar coverage under such group health plans for a period of twenty-four (24) months (the “**CIC COBRA Benefit**”).

(i) The CIC COBRA Benefit shall be paid to the Participant in a lump sum within sixty (60) days following the later to occur of (i) the date of such Qualifying Termination; or (ii) the date of the Change in Control.

(ii) Notwithstanding the foregoing, if the provision of the benefits described in this paragraph cannot be provided in the manner described above without penalty, tax, or other adverse impact on the Company, then the Company and the Participant shall negotiate in good faith to determine an alternative manner in which the Company may provide substantially equivalent benefits to the Participant without such adverse impact on the Company.

(d) The Accrued Benefits, paid under the terms and conditions set forth in Section 4.01(c) above.

Section 4.03 LTIP Awards. Upon a termination of a Participant's employment for any reason, all outstanding LTIP awards that the Participant holds at the time of the applicable termination of employment shall be governed by the terms and conditions of the LTIP and the Participant's individual LTIP award agreements.

ARTICLE V CONDITIONS

Section 5.01 Conditions. A Participant's entitlement to any Severance Benefits under this Plan, or the right to continue receiving such Severance Benefits, will be subject to:

(a) The Participant executing and delivering to the Company his or her Participation Agreement in accordance with the terms thereof;

(b) The Participant executes on or before the Release Expiration Date and does not revoke within any time provided by the Company to do so, a release of all claims in a form acceptable to the Company, consistent with the form of general release on Appendix B (the "**Release**"), which Release shall release the Company's respective shareholders, members, partners, officers, managers, directors, fiduciaries, employees, representatives, agents, and benefit plans (and fiduciaries of such plans) from any and all claims, including any and all causes of action arising out of the Participant's employment with the Company or the termination of such employment, but excluding all claims to Severance Benefits the Participant may have under Article IV; *provided, however*, that if the Release is not executed and returned to the Company on or before the Release Expiration Date, and the required revocation period has not fully expired without revocation of the Release by the Participant, then the Participant shall not be entitled to any portion of the Severance Benefits under Article IV;

(c) The Participant is in continual compliance with the restrictive covenants set forth in Article VI below; and

(d) With respect to the COBRA Benefit only, the Participant timely and properly electing continuation coverage under COBRA.

ARTICLE VI
RESTRICTIVE COVENANTS

Section 6.01 Restrictive Covenants Generally. Notwithstanding the provisions herein, the Participant acknowledges that he or she is subject to that certain Confidentiality and Intellectual Property Agreement entered into with the Company (the “**Confidentiality Agreement**”), which governs certain restrictive covenants agreed upon between the Participant and the Company; should any provisions of this Article VI conflict with the Confidentiality Agreement, that Confidentiality Agreement shall control. Except as otherwise provided in this Plan, the Participant further acknowledges that during the course of his or her employment, the Participant became aware of and familiar with proprietary, secret, and other Confidential Information relating to the Company’s business. In consideration of the Participants’ receipt and access to the Confidential Information, and as a condition of a Participant’s continued employment and potential receipt of benefits pursuant to this Plan, each Participant shall comply with and be bound by any provisions in this Plan regarding Confidential Information and other restrictive covenants contained in this Article VI. Each Participant shall also expressly agree by his or her participation in this Plan that the Company’s products, services, and designs are unique, and that the Company (including its subsidiaries and its Affiliates) shall have a legitimate business interest in protecting its relationship with any customers, potential customers, Confidential Information, including goodwill and its investment in its employees.

Section 6.02 Confidentiality. Participant agrees that both during the Participant’s employment period and thereafter, except as permitted by this Plan or by a directive of the Company, Participant shall not disclose any Confidential Information to any person or entity and shall not use any Confidential Information in any way that is not for the benefit of the Company (including its subsidiaries and Affiliates). Participant shall follow all Company policies and protocols communicated to Participant in writing regarding the security of all documents and other materials containing Confidential Information (regardless of the medium on which Confidential Information is stored). Except in connection with the performance of Participant’s duties on behalf of the Company, Participant shall not remove from facilities of the Company any equipment, drawings, notes, reports, manuals, invention records, computer software, customer information, or other data or materials that constitute or contain Confidential Information, whether paper or electronic and whether produced by Participant or obtained by the Company. The covenants of this Section 6.02 shall apply to all Confidential Information, whether now known or later to become known to Participant during the period that Participant is employed by or affiliated with the Company. This Section 6.02 is not intended to prevent a Participant from disclosing Confidential Information to: (i) other employees of the Company who have a need to know the information in connection with the businesses of the Company; (ii) disclosures to counterparties, customers and suppliers when, in the reasonable and good faith belief of Participant, such disclosure is in connection with Participant’s performance of his or her duties and is in the best interests of the Company; or (iii) disclosures to a person or entity that has (A) been retained by the Company to provide services to the Company, and (B) agreed in writing to abide by the terms of a confidentiality agreement.

Section 6.03 Non-Disparagement. Participant agrees that neither he or she, nor anyone acting on his or her behalf, will make any derogatory or disparaging statement about the Company and/or the Employer Released Parties (as defined in Appendix B of the Release) to any individual or entity, including but not limited to, the Company's actual or potential clients, customers, vendors, employees, financial or credit institutions, or the media, nor directly or indirectly take any action which is intended to embarrass any of them. For purposes of this Section 6.03, a disparaging statement is any communication, oral or written, which would cause or tend to cause the recipient of the communication to question the business condition, integrity, competence, fairness, or good character of the person to whom, or the entity to which the communication relates, regardless of whether the Company believes such statements to be, or such statements are in fact, truthful. The parties acknowledge and agree that the intent of this Section 6.03 is to avoid all derogatory or disparaging remarks by the Participant and not simply those which may be legally defined as defamatory. In the event that the Participant breaches this Section 6.03, the Participant explicitly agrees to pay all damages (including, but not limited to, litigation and/or defense costs, expenses, and reasonable attorneys' fees) incurred by the Company as a result of the Participant's breach. The parties agree that nothing in this Section 6.03 prohibits the Participant from engaging in any activity protected under the National Labor Relations Act.

Section 6.04 Cooperation. Participant agrees, for a reasonable period of time following the Termination Date, to use his or her best professional efforts to orderly windup his or her job duties and responsibilities. Participant further agrees, for a reasonable period of time following the Termination Date, to provide reasonable assistance to the Company (including assistance with litigation and arbitration matters), upon the Company's reasonable request, concerning Participant's previous employment-related responsibilities. Such assistance may include, but is not limited to, transferring signature authorities, communicating and/or meeting with the Company's auditors and attorneys, giving deposition testimony, attending depositions, reviewing pleadings, including discovery pleadings, and attending and giving testimony in court and arbitration proceedings. Participant also covenants and agrees to return to the Company all of the Company's property and confidential and/or proprietary information, if any, that is in Participant's possession, including but not limited to, information stored electronically on computer drives, disks, or smartphones.

Section 6.05 Remedies. Participant agrees that in the event of the Participant's breach or threatened breach of this Plan and restrictive covenants, the Company: (i) may pursue any remedies available under this Plan, including but not limited to, the recovery of the severance consideration set forth in Article IV of this Plan, and any other monetary damages; and (ii) has the right to cease payment of unpaid amounts set forth in Article IV of this Plan. The Participant also agrees that in the event of the parties' breach or threatened breach of this Plan, the parties may suffer irreparable injury and damage to which an award of money to Participant or the Company would not be an adequate remedy. Participant therefore also agrees that in the event of said breach or any reasonable threat of breach, the parties shall be entitled to seek an immediate injunctive relief to prevent such breach, threatened breach, and/or continued breach by the Company, Participant, and/or any and all persons and/or entities acting for and/or with Participant. Participant and the Company further agree that the provisions of this Plan are reasonable. In the event that Participant ever breaches any provision or obligation under this Plan, Participant explicitly agrees to pay all damages (including, but not limited to, litigation and/or defense costs, expenses, and reasonable attorneys' fees) incurred by the Company as a result of the Participant's breach. Nothing in this Section 6.05 shall, or is intended to, limit or restrict any other rights or remedies the Company may have by virtue of this Plan or otherwise.

ARTICLE VII
280G MATTERS

Notwithstanding anything to the contrary in the Plan, if a Participant is a “disqualified individual” (as defined in Section 280G(c) of the Code), and the payments and benefits provided for in the Plan, together with any other payments and benefits which such Participant has the right to receive from the Company or any of its Affiliates, would constitute a “parachute payment” (as defined in Section 280G(b)(2) of the Code), then the payments and benefits provided for in the Plan shall be either:

(a) Reduced (but not below zero) so that the present value of such total amounts and benefits received by such Participant from the Company will be one dollar (\$1.00) less than three (3) times such Participant’s “base amount” (as defined in Section 280G(b)(3) of the Code) and so that no portion of such amounts and benefits received by such Participant shall be subject to the excise tax imposed by Section 4999 of the Code; or

(b) Paid in full,

whichever produces the better net after-tax position to such Participant (taking into account any applicable excise tax under Section 4999 of the Code and any other applicable taxes). The reduction of payments and benefits hereunder, if applicable, shall be made by reducing, first, payments or benefits to be paid in cash hereunder in the order in which such payment or benefit would be paid or provided (beginning with such payment or benefit that would be made last in time and continuing, to the extent necessary, through to such payment or benefit that would be made first in time) and, second, reducing any benefit to be provided in-kind hereunder in a similar order. The determination as to whether any such reduction in the amount of the payments and benefits provided hereunder is necessary shall be made by the Company in good faith. If a reduced payment or benefit is made or provided and through error or otherwise that payment or benefit, when aggregated with other payments and benefits from the Company used in determining if a “parachute payment” exists, exceeds one dollar (\$1.00) less than three (3) times such Participant’s base amount, then such Participant shall be required to immediately repay such excess to the Company upon notification that an overpayment has been made. Nothing in this Article VII shall require the Company to be responsible for, or have any liability or obligation with respect to, such Participant’s excise tax liabilities under Section 4999 of the Code.

**ARTICLE VIII
CLAIMS PROCEDURES**

Section 8.01 Initial Claims. A Participant who believes he or she is entitled to a payment under the Plan that has not been received may submit a written claim for benefits to the Plan within sixty (60) days after the Participant's Qualifying Termination. Claims should be addressed and sent to:

**Atlas Energy Solutions
c/o Company Secretary
5918 W. Courtyard Dr., Suite 500
Austin, Texas 78730**

If the Participant's claim is denied, in whole or in part, the Participant will be furnished with written notice of the denial within ninety (90) days after the Administrator's receipt of the Participant's written claim, unless special circumstances require an extension of time for processing the claim, in which case a period not to exceed 180 days will apply. If such an extension of time is required, then written notice of the extension will be furnished to the Participant before the termination of the initial ninety (90)-day period and will describe the special circumstances requiring the extension, and the date on which a decision is expected to be rendered. Written notice of the denial of the Participant's claim will contain the following information:

- (a) The specific reason or reasons for the denial of the Participant's claim;
- (b) References to the specific Plan provisions on which the denial of the Participant's claim was based;
- (c) A description of any additional information or material required by the Administrator to reconsider the Participant's claim (to the extent applicable) and an explanation of why such material or information is necessary; and
- (d) A description of the Plan's review procedures and time limits applicable to such procedures, including a statement of the Participant's right to bring a civil action under Section 502(a) of ERISA following a benefit claim denial on review.

Section 8.02 Appeal of Denied Claims. If the Participant's claim is denied and he or she wishes to submit a request for a review of the denied claim, then the Participant, or his or her authorized representative, must follow the procedures described below:

- (a) Upon receipt of the denied claim, the Participant (or his or her authorized representative) may file a request for review of the claim in writing with the Administrator. This request for review must be filed no later than sixty (60) days after the Participant has received written notification of the denial.
- (b) The Participant has the right to submit in writing to the Administrator any comments, documents, records, and other information relating to his or her claim for benefits.
- (c) The Participant has the right to be provided with, upon request and free of charge, reasonable access to and copies of all pertinent documents, records, and other information that is relevant to his or her claim for benefits.

(d)The review of the denied claim will take into account all comments, documents, records, and other information that the Participant submitted relating to his or her claim, without regard to whether such information was submitted or considered in the initial denial of his or her claim.

Section 8.03 Administrator's Response to Appeal. The Administrator will provide the Participant with written notice of its decision within sixty (60) days after the Administrator's receipt of the Participant's written claim for review. There may be special circumstances which require an extension of this sixty (60)-day period. In any such case, the Administrator will notify the Participant in writing within the sixty (60)-day period and the final decision will be made no later than 120 days after the Administrator's receipt of the Participant's written claim for review. The Administrator's decision on the Participant's claim for review will be communicated to the Participant in writing and will clearly state:

(a)The specific reason or reasons for the denial of the Participant's claim;

(b)Reference to the specific Plan provisions on which the denial of the Participant's claim is based;

(c)A statement that the Participant is entitled to receive, upon request and free of charge, reasonable access to, and copies of, the Plan and all documents, records, and other information relevant to his or her claim for benefits; and

(d)A statement describing the Participant's right to bring an action under Section 502(a) of ERISA.

Section 8.04 Exhaustion of Administrative Remedies. The exhaustion of these claims procedures is mandatory for resolving every claim and dispute arising under the Plan. As to such claims and disputes:

(a)No claimant shall be permitted to commence any legal action to recover benefits or to enforce or clarify rights under the Plan under Section 502 or Section 510 of ERISA or under any other provision of law, whether or not statutory, until these claims procedures have been exhausted in their entirety; and

(b)In any such legal action, all explicit and implicit determinations by the Administrator (including, but not limited to, determinations as to whether the claim, or a request for a review of a denied claim, was timely filed) shall be afforded the maximum deference permitted by law.

Section 8.05 Attorney's Fees. The Company and each Participant shall bear their own attorneys' fees incurred in connection with any disputes between them.

**ARTICLE IX
ADMINISTRATION, AMENDMENT AND TERMINATION**

Section 9.01 Administration. The Administrator has the exclusive right, power, and authority, in its sole and absolute discretion, to administer and interpret the Plan. The Administrator has all powers reasonably necessary to carry out its responsibilities under the Plan including (but not limited to) the sole and absolute discretionary authority to:

- (a) administer the Plan according to its terms and to interpret Plan policies and procedures;
- (b) resolve and clarify inconsistencies, ambiguities, and omissions in the Plan, and among and between the Plan and other related documents;
- (c) take all actions and make all decisions regarding questions of eligibility and entitlement to benefits, and benefit amounts;
- (d) make, amend, interpret, and enforce all appropriate rules and regulations for the administration of the Plan;
- (e) process and approve or deny all claims for benefits; and
- (f) decide or resolve any and all questions, including benefit entitlement determinations and interpretations of the Plan, as may arise in connection with the Plan.

The decision of the Administrator on any disputes arising under the Plan, including (but not limited to) questions of construction, interpretation and administration shall be final, conclusive and binding on all persons having an interest in or under the Plan. Any determination made by the Administrator shall be given deference in the event the determination is subject to judicial review and shall be overturned by a court of law only if it is arbitrary and capricious.

Section 9.02 Amendment and Termination. The Company reserves the right to amend or terminate the Plan at any time, by providing at least ninety (90) days advance written notice to each Participant; provided that no such amendment or termination that has the effect of reducing or diminishing the right of any Participant will be effective without the written consent of such Participant.

**ARTICLE X
GENERAL PROVISIONS**

Section 10.01 At-Will Employment. The Plan does not alter the status of each Participant as an at-will employee of the Company. Nothing contained herein shall be deemed to give any Participant the right to remain employed by the Company or to interfere with the rights of the Company to terminate the employment of any Participant at any time, with or without Cause.

Section 10.02 Effect on Other Plans, Agreements and Benefits.

(a) Any Severance Benefits payable to a Participant under the Plan will be: (i) in lieu of and not in addition to any severance benefits to which the Participant would otherwise be entitled under any general severance policy or severance plan maintained by the Company or any agreement between the Participant and the Company that provides for severance benefits (unless the policy, plan or agreement expressly provides for severance benefits to be in addition to those provided under the Plan); and (ii) reduced by any severance benefits to which the Participant is entitled by operation of a statute or government regulations.

(b) Any Severance Benefits payable to a Participant under the Plan will not be counted as compensation for purposes of determining benefits under any other benefit policies or plans of the Company, except to the extent expressly provided therein.

Section 10.03 Mitigation and Offset. If a Participant obtains other employment, then such other employment will not affect the Participant's rights or the Company's obligations under the Plan. The Company may reduce the amount of any Severance Benefits otherwise payable to or on behalf of a Participant by the amount of any obligation of the Participant to the Company, and the Participant shall be deemed to have consented to such reduction.

Section 10.04 Severability. The invalidity or unenforceability of any other provision of the Plan shall not affect the validity or enforceability of any other provision of the Plan. If any other provision of the Plan is held by a court of competent jurisdiction to be illegal, invalid, void, or unenforceable, such provision shall be deemed modified, amended, and narrowed to the extent necessary to render such provision legal, valid, and enforceable, and the other remaining provisions of the Plan shall not be affected but shall remain in full force and effect.

Section 10.05 Headings and Subheadings. Headings and subheadings contained in the Plan are intended solely for convenience and no provision of the Plan is to be construed by reference to the heading or subheading of any section or paragraph.

Section 10.06 Unfunded Obligations. The amounts to be paid to Participants under the Plan are unfunded obligations of the Company. The Company is not required to segregate any monies or other assets from its general funds with respect to these obligations. Participants shall not have any preference or security interest in any assets of the Company other than as a general unsecured creditor.

Section 10.07 Successors. The Plan will be binding upon any successor to the Company, its assets, its businesses, or its interest (whether as a result of the occurrence of a Change in Control or otherwise), in the same manner and to the same extent that the Company would be obligated under the Plan if no succession had taken place. In the case of any transaction in which a successor would not be bound by the foregoing provision or by operation of law be bound by the Plan, the Company shall require any successor to the Company to expressly and unconditionally assume the Plan in writing and honor the obligations of the Company hereunder, in the same manner and to the same extent that the Company would be required to perform if no succession had taken place. All payments and benefits that become due to a Participant under the Plan will inure to the benefit of his or her heirs, assigns, designees, or legal representatives.

Section 10.08 Transfer and Assignment. Neither a Participant nor any other person shall have any right to sell, assign, transfer, pledge, anticipate, or otherwise encumber, transfer, hypothecate, or convey any amounts payable under the Plan prior to the date that such amounts are paid, except that, in the case of a Participant's death, such amounts shall be paid to the Participant's beneficiaries.

Section 10.09 Waiver. Any party's failure to enforce any provision or provisions of the Plan will not in any way be construed as a waiver of any such provision or provisions, nor prevent any party from thereafter enforcing each and every other provision of the Plan.

Section 10.10 Governing Law. To the extent not pre-empted by federal law, the Plan shall be construed in accordance with and governed by the laws of Texas without regard to conflicts of law principles. Any action or proceeding to enforce the provisions of the Plan will be brought only in a state or federal court located in the state of Texas, county of Travis, and each party consents to the venue and jurisdiction of such court. The parties hereby irrevocably submit to the exclusive jurisdiction of such courts and waive the defense of inconvenient forum to the maintenance of any such action or proceeding in such venue.

Section 10.11 Clawback. Any amounts payable under the Plan are subject to any policy (whether in existence as of the Effective Date or later adopted) established by the Company providing for clawback or recovery of amounts that were paid to the Participant. The Company will make any determination for clawback or recovery in its sole discretion and in accordance with any applicable law or regulation.

Section 10.12 Withholding. The Company shall have the right to withhold from any amount payable hereunder any Federal, state and local taxes in order for the Company to satisfy any withholding tax obligation it may have under any applicable law or regulation.

Section 10.13 Section 409A.

(a) The Plan is intended to comply with Section 409A of the Code or an exemption thereunder and shall be construed and administered in accordance with Section 409A of the Code. Notwithstanding any other provision of the Plan, payments provided under the Plan may only be made upon an event and in a manner that complies with Section 409A of the Code or an applicable exemption. Any payments under the Plan that may be excluded from Section 409A of the Code either as separation pay due to an involuntary separation from service or as a short-term deferral shall be excluded from Section 409A of the Code to the maximum extent possible. For purposes of Section 409A of the Code, each installment payment provided under the Plan shall be treated as a separate payment. Any payments to be made under the Plan upon a termination of employment shall only be made upon a "separation from service" under Section 409A of the Code. Notwithstanding the foregoing, the Company makes no representations that the payments and benefits provided under the Plan comply with Section 409A of the Code and in no event shall the Company be liable for all or any portion of any taxes, penalties, interest or other expenses that may be incurred by a Participant on account of non-compliance with Section 409A of the Code.

(b) Notwithstanding any other provision of the Plan, if any payment or benefit provided to a Participant in connection with his or her Qualifying Termination is determined to constitute "nonqualified deferred compensation" within the meaning of Section 409A of the Code and the Participant is determined to be a "specified employee" as defined in Section 409A(a)(2)(b)(i) of the Code, then such payment or benefit shall not be paid until the first payroll date to occur following the six (6)-month anniversary of the Qualifying Termination or, if earlier, on the Participant's death (the "**Specified Employee Payment Date**"). The aggregate of any payments that would otherwise have been paid before the Specified Employee Payment Date and interest on such amounts calculated based on the applicable federal rate published by the Internal Revenue Service for the month in which the Participant's separation from service occurs shall be paid to the Participant in a lump sum on the Specified Employee Payment Date and thereafter, any remaining payments shall be paid without delay in accordance with their original schedule. Notwithstanding any other provision of the Plan, if any payment or benefit is conditioned on the Participant's execution of a Release, then the first payment shall include all amounts that would otherwise have been paid to the Participant during the period beginning on the date of the Qualifying Termination and ending on the payment date if no delay had been imposed.

(c) To the extent required by Section 409A of the Code, each reimbursement or in-kind benefit provided under the Plan shall be provided in accordance with the following: (i) the amount of expenses eligible for reimbursement, or in-kind benefits provided, during each calendar year cannot affect the expenses eligible for reimbursement, or in-kind benefits to be provided, in any other calendar year; and (ii) any right to reimbursements or in-kind benefits under the Plan shall not be subject to liquidation or exchange for another benefit.

APPENDIX A
Eligible Employees

Name/Title or Position	Severance Multiplier	Change in Control Severance Multiplier
Chief Executive Officer	2X	3X
President and CFO	2X	3X
Section 16 Officers	1.5X	2X
Other Officers	1X	1.5X

APPENDIX B

The following Release is intended to be an example of the material terms of the general form of Release that shall be used in connection with the Atlas Energy Solutions Inc. Management Change in Control Severance Plan

FORM OF GENERAL RELEASE

This General Release (the “**Release**”) constitutes the Release referred to in that certain [Atlas Energy Solutions Inc.] Management Change in Control Severance Plan (as amended the “**Plan**”), by and among [•] (the “**Employee**”) and the Company.

(a) In exchange for and in consideration of the payments, benefits, and other commitments described above within the Plan that are conditioned upon the proper execution of a Release, Employee, individually, and for each of Employee’s heirs, executors, administrators, and assigns, hereby FULLY RELEASES, QUILTS AND FOREVER DISCHARGES the Company and each of its respective predecessors, assigns, and Affiliates and its respective officers, managers, boards of directors, employees, attorneys and agents, past and present (collectively, the “**Employer Released Parties**”), of and from any and all claims, liabilities, causes of action, demands to any rights, damages, costs, attorneys’ fees, expenses, and compensation whatsoever, of whatever kind or nature, in law, equity or otherwise, whether known or unknown, vested or contingent, suspected or unsuspected, that Employee may now have, has ever had, or hereafter may have, relating directly or indirectly to Employee’s employment with any Employer Released Party or the termination of such employment or arising out of or relating to the Plan or any other agreement, plan, policy or program of the Company. Such claims may include, but are not limited to, claims for wages, back pay, front pay, commissions, bonuses, equity grants, profits interests, long term incentive plans, stock options, overrides, reimbursement, reinstatement, damages or benefits, Employee also releases any and all claims Employee may have that arose prior to the date of this Release, and hereby specifically waives and releases all claims under Title VII of the Civil Rights Act of 1964, as amended, the Civil Rights Act of 1991, the Equal Pay Act, the Americans With Disabilities Act, the Age Discrimination in Employment Act, as amended, the Consolidated Omnibus Budget Reconciliation Act (COBRA), the Family and Medical Leave Act, the Employment Retirement Income Security Act of 1974, as amended, the National Labor Relations Act, the Fair Labor Standards Act, and any and all state or local statutes, ordinances, or regulations, as well as all claims arising under federal, state or local law, involving any tort, employment contract claim whether express or implied, “wage and hour” or other claim, of any nature, for compensation or reimbursement claim of any type, including but not limited to, wrongful discharge, or any other claim. Employee covenants not to sue the Employer Released Parties for any claim released by this Release.

(b) By signing this Release, Employee does not hereby waive any rights or claims: (i) for unemployment or workers’ compensation; (ii) that arise after Employee signs this Release; (iii) for which private waivers or releases are prohibited by applicable law; or (iv) to bring a lawsuit against the Company to enforce the Company’s obligations under this Release. This Release also does not prevent Employee from filing or participating in a charge of discrimination filed with the Equal Employment Opportunity Commission or any similar state or local agency, or a charge with the National Labor Relations Board or any other governmental agency.

Further, this Release does not limit Employee's right or ability to: (i) disclose information required by law; (ii) report a possible violation of any law or regulation to any government agency or entity, or make disclosures that are protected under the whistleblower provisions of any law; (iii) initiate, provide information to, testify at, participate, or otherwise assist, any governmental, regulatory, law enforcement agency, legislative body, any self-regulatory organization, or the Company's legal, compliance, or human resources officers in any investigation or proceeding brought by relating to an alleged violation of any federal, state, or municipal law; or (iv) respond to any inquiry from such authority, including an inquiry about the existence of this Release or its underlying facts. Employee also does not need to notify the Company or seek the Company's prior authorization before making such disclosures or engaging in such communications.

(c)Employee represents and warrants that he or she does not presently have on file, and further agrees to the maximum extent allowed by law that he or she will not hereafter file, any lawsuits, claims, charges, grievances or complaints against the Company and/or the Employer Released Parties in or with any administrative, state, federal or governmental entity, agency, board or court, or before any other tribunal or panel of arbitrators, public or private, based upon any actions or omissions by the Company and/or the Employer Released Parties occurring prior to the date of your execution of this Release. Except to enforce the terms of this Release and subject to the exceptions and rights set forth above, Employee understands that if Employee breaks this promise, he or she agrees to pay all costs incurred by Employer Released Parties (or any of them), including reasonable attorney's fees, in defending against such claim and return all but \$500 of the Severance Benefits provided pursuant to the Plan, and that the Company may be entitled to additional monetary damages, including associated court costs and attorney fees, and that the Company may also seek injunctive relief to order specific performance of Employee's obligations under this Release.

(d)Employee also understands that even if this Release permits him or her to file a charge or lawsuit, he or she waives any right to recover back pay, front pay, liquidated damages, punitive damages, compensatory damages, or attorney's fees from the Company or the Employer Released Parties in any suit, complaint, charge, or other proceeding filed by Employee or any person or entity for any alleged injury personally suffered by Employee.

(e)Employee understands this is a FULL, COMPLETE AND FINAL RELEASE, and that the consideration set forth above is accepted in FULL COMPROMISE AND SETTLEMENT of causes of action, claims of disputes that the Employee has or may have in the future, and that the parties released do not admit any liability but, to the contrary, the parties hereby released deny there is any legal liability on their part, but have agreed to enter into this Release in an effort to avoid any dispute.

Notwithstanding the initial effectiveness of this Release, Employee may revoke the delivery (and therefore the effectiveness) of this Release within the seven (7)-day period beginning on the date Employee delivers this Release to the Company (such seven (7)-day period being referred to herein as the “**Release Revocation Period**”). To be effective, such revocation must be in writing signed by Employee and must be delivered to [title] before 11:59 p.m., Central Time, on the last day of the Release Revocation Period. If an effective revocation is delivered in the foregoing manner and timeframe, this Release shall be of no force or effect and shall be null and void ab initio. No consideration pursuant to the Plan shall be paid if this Release is revoked by Employee in the foregoing manner.

Executed on this _____ day of _____, _____.

Exhibit 21.1

Name	Jurisdiction of Formation
AESI Holdings Inc.	Delaware
Atlas Sand Operating, LLC	Delaware
Atlas Sand Company, LLC (d/b/a Atlas Energy Solutions)	Delaware
Atlas Sand Construction, LLC	Texas
Atlas Sand Employee Holding Company, LLC	Texas
Fountainhead Logistics, LLC	Delaware
Fountainhead Transportation Services, LLC	Delaware
Fountainhead Equipment Leasing, LLC	Delaware
OLC Kermit, LLC	Texas
OLC Monahans, LLC	Texas
Fountainhead Logistics Employee Company, LLC	Texas
Atlas Sand Employee Company, LLC	Texas
Atlas OLC Employee Company, LLC	Texas
Atlas Construction Employee Company, LLC	Texas



John T. Boyd Company

Mining and Geological Consultants

Chairman
James W. Boyd

February 27, 2024
File: 3871.009

President and CEO
John T. Boyd II

Subject: **CONSENT TO BE NAMED IN
REGISTRATION STATEMENT**

Managing Director and COO
Ronald L. Lewis

Ladies and Gentlemen:

Vice Presidents

Robert J. Farmer
Jisheng (Jason) Han
John L. Weiss
Michael F. Wick
William P. Wolf

The undersigned hereby consents to the references to our firm in the form and context in which they appear in this Annual Report on Form 10-K of Atlas Energy Solutions Inc. (the "Company") for the year ended December 31, 2023 (the "Annual Report"). We hereby further consent to (i) the use in the Annual Report of information contained in our reports setting forth the estimates of reserves of the Company as of December 31, 2023, 2022 and 2021 and (ii) the incorporation by reference in the Registration Statement on Form S-8 (No. 333-270507) of the Company of such information.

Managing Director - Australia
Jacques G. Steenekamp

Managing Director - China
Rongjie (Jeff) Li

Managing Director - South America
Carlos F. Barrera

Respectfully submitted,

JOHN T. BOYD COMPANY

By:

John T. Boyd II
President and CEO

Pittsburgh
4000 Town Center Boulevard, Suite 300
Canonsburg, PA 15317
(724) 873-4400
(724) 873-4401 Fax
jtboydp@jtboyd.com

Denver
(303) 293-8988
jtboydd@jtboyd.com

Brisbane
61 7 3232-5000
jtboydau@jtboyd.com

Beijing
86 10 6500-5854
jtboydcn@jtboyd.com

Bogota
+57-3115382113
jtboydcol@jtboyd.com

www.jtboyd.com

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the Registration Statement (Form S-8 No. 333-270507) pertaining to the 2023 Long Term Incentive Plan of Atlas Energy Solutions, Inc. of our report dated February 27, 2024, with respect to the consolidated financial statements of Atlas Energy Solutions, Inc. included in this Annual Report (Form 10-K) of Atlas Energy Solutions, Inc. for the year ended December 31, 2023.

/s/ Ernst & Young LLP

Austin, Texas
February 27, 2024

**CERTIFICATION OF CHIEF EXECUTIVE OFFICER
PURSUANT TO RULES 13A-14(A) AND 15D-14(A)
OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED**

I, Ben M. Brigham, Executive Chairman and Chief Executive Officer of Atlas Energy Solutions Inc., certify that:

1. I have reviewed this Annual Report on Form 10-K of Atlas Energy Solutions Inc. (the “registrant”) for the year ended December 31, 2023;

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) 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; and

(c) 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 27, 2024

By:

/s/ Ben M. Brigham

Ben M. Brigham

Executive Chairman and Chief Executive Officer

**CERTIFICATION OF CHIEF FINANCIAL OFFICER
PURSUANT TO RULES 13A-14(A) AND 15D-14(A)
OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED**

I, John Turner, President and Chief Financial Officer of Atlas Energy Solutions Inc., certify that:

1. I have reviewed this Annual Report on Form 10-K of Atlas Energy Solutions Inc. (the “registrant”) for the year ended December 31, 2023;

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) 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; and

(c) 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 27, 2024

By:

/s/ John Turner
John Turner
President and Chief Financial Officer

**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**

In connection with the Annual Report on Form 10-K for the year ended December 31, 2023 of Atlas Energy Solutions Inc., a Delaware corporation (the “Company”), as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Ben M. Brigham, Executive Chairman and Chief Executive Officer of the Company, hereby certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; 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 27, 2024

By:

/s/ Ben M. Brigham
Ben M. Brigham
Chairman and Chief Executive Officer

**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**

In connection with the Annual Report on Form 10-K for the year ended December 31, 2023 of Atlas Energy Solutions Inc., a Delaware corporation (the "Company"), as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, John Turner, President and Chief Financial Officer of the Company, hereby certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

- (1)The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; 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 27, 2024

By:

/s/ John Turner
John Turner
President and Chief Financial Officer

Mine Safety Disclosures

The following disclosures are provided pursuant to Section 1503(a) of the Dodd-Frank Wall Street Reform and Consumer Protection Act (the “Act”) and Item 104 of Regulation S-K, which requires certain disclosures by companies required to file periodic reports under the Securities Exchange Act of 1934, as amended, that operate mines regulated under the Federal Mine Safety and Health Act of 1977 (the “Mine Act”).

Mine Safety Information. Whenever the Federal Mine Safety and Health Administration (“MSHA”) believes a violation of the Mine Act, any health or safety standard or any regulation has occurred, it may issue a citation that describes the alleged violation and fixes a time within which the U.S. mining operator must abate the alleged violation. In some situations, such as when MSHA believes that conditions pose a hazard to miners, MSHA may issue an order removing miners from the area of the mine affected by the condition until the alleged hazards are corrected. When MSHA issues a citation or order, it generally proposes a civil penalty, or fine, as a result of the alleged violation, that the operator is ordered to pay. Citations and orders can be contested and appealed, and as part of that process, may be reduced in severity and amount, and are sometimes dismissed. The number of citations, orders and proposed assessments vary depending on the size and type (underground or surface) of the mine as well as by the applicable MSHA District or the MSHA inspector(s) assigned.

The following table details the total number of, and the proposed dollar assessment for, violations, citations and orders issued by MSHA during the year ended December 31, 2023 upon periodic inspection of our mine facilities in accordance with the referenced sections of the Mine Act:

(in whole dollars)

Mine or Operating Name/MSHA Identification Number	Section 104 S&S Citations ⁽¹⁾	Section 104(b) Orders ⁽²⁾	Section 104(d) Citations and Orders ⁽³⁾	Violations Under Section 110(b)(2) ⁽⁴⁾	Section 107(a) Orders ⁽⁵⁾	Total Dollar Value of MSHA Assessments Proposed ⁽⁶⁾	Total Number of Mining-Related Fatalities	Received Notice of Pattern of Violations Under Section 104(e) (Yes/No)	Received Notice of Potential to Have Pattern Under Section 104(e) (Yes/No)	Legal Actions Pending as of Last Day of Period	Legal Actions Initiated During Period	Legal Actions Resolved During Period
N. Kermit, TX	0	0	0	0	0	\$2,554	0	No	No	0	0	0
S. Kermit, TX	1	0	0	0	0	\$4,026	0	No	No	0	0	0

(1) Citations received from MSHA under Section 104 of the Mine Act for violations of mandatory health or safety standards that could significantly and substantially contribute to the cause and effect of a mine safety or health hazard.

(2) Orders issued by MSHA under Section 104(b) of the Mine Act, which represents a failure to abate a citation under section 104(a) within the period of time prescribed by MSHA. This results in an order of immediate withdrawal from the area of the mine affected by the condition until MSHA determines that the violation has been abated.

(3) Citations and orders issued by MSHA under Section 104(d) of the Mine Act for an unwarrantable failure to comply with mandatory health or safety standards.

(4) Violations deemed by MSHA to be flagrant under Section 110(b)(2) of the Mine Act.

(5) Orders issued by MSHA under Section 107(a) of the Mine Act for situations in which MSHA determined an “imminent danger” (as defined by MSHA) existed.

(6) Amounts included are the total dollar value of proposed assessments received from MSHA from January 1, 2023, through December 31, 2023, regardless of whether the assessment has been challenged or appealed. Citations and orders can be contested and appealed, and as part of that process, are sometimes reduced in severity and amount, and sometimes dismissed. The number of citations, orders, and proposed assessments vary by the MSHA District’s approach to enforcement and vary depending on the size and type of the operation.

**TECHNICAL REPORT SUMMARY
FRAC SAND RESOURCES AND RESERVES
KERMIT AND MONAHANS MINES**

Ward and Winkler Counties, Texas

Prepared For
ATLAS ENERGY SOLUTIONS, INC
Austin, Texas

By
John T. Boyd Company
Mining and Geological Consultants
Pittsburgh, Pennsylvania, USA



Report No. 3871.009
FEBRUARY 2024



John T. Boyd Company

Mining and Geological Consultants

Chairman
James W. Boyd

President and CEO
John T. Boyd II

Managing Director and COO
Ronald L. Lewis

Vice Presidents
Robert J. Farmer
Jisheng (Jason) Han
John L. Weiss
Michael F. Wick
William P. Wolf

Managing Director - Australia
Jacques G. Steenekamp

Managing Director - China
Rongjie (Jeff) Li

Managing Director - South America
Carlos F. Barrera

Pittsburgh
4000 Town Center Boulevard, Suite 300
Canonsburg, PA 15317
(724) 873-4400
(724) 873-4401 Fax
jtboydp@jtboyd.com

Denver
(303) 293-8988
jtboydd@jtboyd.com

Brisbane
61 7 3232-5000
jtboydau@jtboyd.com

Beijing
86 10 6500-5854
jtboydcn@jtboyd.com

Bogota
+57-3115382113
jtboydcol@jtboyd.com

www.jtboyd.com

February 22, 2024
File: 3871.009

Atlas Energy Solutions, Inc
5918 W. Courtyard Drive, #500
Austin, TX 78730

Attention: Mr. John Turner
Chief Financial Officer

Subject: Technical Report Summary
Frac Sand Resources and Reserves
Kermit and Monahans Mines
Ward and Winkler Counties, Texas

Dear Sirs:

This S-K 1300-compliant technical report summary provides the results of John T. Boyd Company's (BOYD) independent estimate of the frac sand (proppant) resources and reserves for Atlas Energy Solutions, Inc.'s (Atlas) Kermit and Monahans mines as of December 31, 2023.

We wish to acknowledge the cooperation of Atlas's management and staff for providing the technical, financial, and legal information used in completing this project. Our findings are based on BOYD's extensive experience in preparing frac sand resource and reserve estimates used in US Securities and Exchange Commission (SEC) filings, and our knowledge of frac sand mining in Texas and throughout North America.

Respectfully submitted,

JOHN T. BOYD COMPANY

By:

John T. Boyd II
President and CEO

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LETTER OF TRANSMITTAL

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GLOSSARY OF ABBREVIATIONS AND DEFINITIONS

\$:	US dollar(s)
%	:	Percent or percentage
Atlas	:	Atlas Energy Solutions, Inc.
API	:	American Petroleum Institute
BOYD	:	John T. Boyd Company
CapEx	:	Capital expenditures
CCAA	:	Candidate Conservation Agreement with Assurances
COGS	:	Cost of goods sold
Constant Dollar	:	A monetary measure that is not influenced by inflation and used to compare time periods. Sometimes referred to as “real dollars”.
CY	:	Cubic yards
DCF	:	Discounted Cash Flow
Discount Rate	:	A rate of return used to discount future cash flows based on the return investors expect to receive from their investment.
DSL	:	Dunes sagebrush lizard (<i>Sceloporus arenicolus</i>)
DUC	:	Drilled but uncompleted gas or oil well.
FOB	:	Free-on-Board
Frac Sand	:	Frac sand is a naturally occurring, high silica content quartz sand, with grains that are generally well rounded and exhibit high compressive strength characteristics relative to other silica sand. It is utilized as a prop or “proppant” in unconventional shale frac well completions.
Frac Sand Resource	:	Frac sand resource is a concentration or occurrence of sand material of economic interest in or on the Earth’s crust in such form, grade or quality, and quantity that there are reasonable prospects for economic extraction. A mineral resource is a reasonable estimate of mineralization, taking into account relevant factors such as quality specifications, likely mining dimensions, location or continuity, that, with the assumed and justifiable technical and economic conditions, is likely to, in whole or in part, become economically extractable. It is not merely an inventory of all mineralization drilled or sampled.

Frac Sand Reserve	:	Frac sand reserve is an estimate of tonnage and grade or quality of mineral resources that, in the opinion of the qualified person, can be the basis of an economically viable project. More specifically, it is the economically mineable part of a mineral resource, which includes diluting materials and allowances for losses that may occur when the material is mined or extracted.
gpm	:	Gallons per minute
Indicated Sand Resource	:	An Indicated Sand Resource is that part of a Sand Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing, and is sufficient to assume geological and grade or quality continuity between points of observation. An Indicated Sand Resource has a lower level of confidence than that applying to a Measured Sand Resource and may only be converted to a Probable Sand Reserve.
IRR	:	Internal rate-of-return
ISO	:	International Organization for Standardization
lb	:	Pound
LOM	:	Life-of-Mine
Measured Sand Resource	:	A Measured Sand Resource is that part of a Sand Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling, and testing and is sufficient to confirm geological and grade or quality continuity between points of observation. A Measured Sand Resource has a higher level of confidence than that applying to either an Indicated Sand Resource or an Inferred Sand Resource. It may be converted to a Proven Sand Reserve or to a Probable Sand Reserve.
Mesh	:	A measurement of particle size often used in determining the size distribution of granular material.
Mineral Reserve	:	<i>See "Frac Sand Reserve"</i>

Mineral Resource	:	See " <i>Frac Sand Resource</i> "
Modifying Factors	:	The factors that a qualified person must apply to indicated and measured sand resources and then evaluate to establish the economic viability of sand reserves. A qualified person must apply and evaluate modifying factors to convert measured and indicated resources to proven and probable reserves. These factors include, but are not restricted to: mining; processing; metallurgical; infrastructure; economic; marketing; legal; environmental compliance; plans, negotiations, or agreements with local individuals or groups; and governmental factors. The number, type and specific characteristics of the modifying factors applied will necessarily be a function of and depend upon the mineral, mine, property, or project.
Mscf	:	Thousand standard cubic feet per day
MSHA	:	Mine Safety and Health Administration. A division of the U.S. Department of Labor.
NOAA	:	National Oceanic and Atmospheric Administration
NSR	:	New Source Review
NTU	:	Nephelometric turbidity units
NPV	:	Net Present Value
Permian Basin	:	A large sedimentary shale basin in the southwestern part of the United States in mainly Texas and New Mexico. The basin produces approximately 6 million barrels per day of oil and holds some of the largest oil and gas reserves in the world.
Probable Sand Reserve	:	A Probable Sand Reserve is the economically mineable part of an Indicated and, in some circumstances, a Measured Sand Resource. The confidence in the Modifying Factors applying to a Probable Sand Reserve is lower than that applying to a Proven Sand Reserve.
Proppant Sand	:	See " <i>Frac Sand</i> "
Proven Sand Reserve	:	A Proven Mineral Reserve is the economically mineable part of a Measured Sand Resource. A Proven Sand Reserve implies a high degree of confidence in the Modifying Factors.
PSI	:	Pounds per square inch

ROM	:	Run-of-Mine. The as-mined including in-seam clay partings mined with the sand, and out-of-seam dilution.
Rotosonic Drilling	:	A type of core drilling combining rotary drilling with ultrasonic frequency to drill through loosely consolidated soil and rock.
SEC	:	U.S. Securities and Exchange Commission
S-K 1300	:	Subpart 1300 and Item 601(b)(96) of the U.S. Securities and Exchange Commission's Regulation S-K
S&S	:	The Sealey and Smith Foundation
Surficial	:	Relating to the earths surface or the geology that is on the surface.
TCEQ	:	Texas Commission on Environmental Quality
Ton	:	Short Ton. A unit of weight equal to 2,000 pounds
tph	:	Tons per Hour
Westward	:	Westward Environmental Inc

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1.0 EXECUTIVE SUMMARY

1.1.Introduction

BOYD was retained by Atlas to complete an updated independent technical audit of mineral resource and mineral reserve estimates—hereafter referred to as frac sand resource and frac sand reserve estimates—for their active mining and processing operations located near Kermit, Texas (the “Kermit Mines”) and Monahans, Texas (the “Monahans Mine”). Throughout the report, the Kermit and Monahans mines may also be referred to as the Kermit and Monahans “operations”, “plants”, “properties”, or “facilities”. This report summarizes the results of our resource and reserve estimation and satisfies the requirements for Atlas’s disclosure of frac sand resources and reserves set forth in Subpart 1300 and Item 601(b)(96) of the SEC’s Regulation S-K (S-K 1300).

This update was requested by Atlas to replace BOYD’s original Technical Report Summary (TRS) for their Kermit and Monahans mines (BOYD Report No.: 3871.006), as Atlas has made the following material updates: (1) expanded their Kermit production capacity in 2023 by adding a new mining and processing facility with 5.5 million tons of annual production capacity, for a combined total production capacity at Kermit of 11.0 million tons per year, (2) converted significant portions of the Kermit Mines’ frac sand resources to frac sand reserves by revising the extents of the mine plans to support the expanded production capacity, and (3) continued construction of their Dune Express, a 42-mile long electric conveyor system that originates at the Kermit Mines and ends in New Mexico.

BOYD’s findings are based on our detailed examination of the supporting geologic, technical, and economic information obtained from: (1) Atlas provided files, (2) discussions with Atlas personnel, (3) records on file with regulatory agencies, (4) public sources, and (5) nonconfidential BOYD files. Our analysis was performed to obtain reasonable assurance that Atlas’s frac sand resource and reserve statements are free from material misstatement. This report provides an independent estimate of the frac sand resources and reserves underlying the Kermit and Monahans controlled properties.

This report provides a summary of the material technical and scientific information for the subject mining properties. The Economic Analysis and resulting Net Present Value (NPV) estimate in this report were made for the purpose of confirming the economic viability of the reported sand reserves and not for the purpose of valuing Atlas or its assets. Internal Rate of Return (IRR) and project payback were not calculated, as there was no initial investment considered in the financial model.

Weights and measurements are expressed in US customary units. Unless noted, the effective date of the information, including estimates of frac sand reserves, is December 31, 2023.

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1.2. Property Description and Control

From mid-2018 through late-2023, Atlas operated one mining and processing facility at Kermit and one at Monahans. The combined total production capacity of these two operations was 11 million tons of finished frac sand per year. In response to the increase in market demand, and also in connection with the expansion of their logistics offerings, Atlas expanded their Kermit production capacity in 2023 by adding a new mining and processing facility with 5.5 million tons of annual production capacity. By the end of 2023, Atlas operated three mining and processing facilities with a combined total production capacity of 16.5 million tons annually.

The Kermit Mines, in Winkler County, Texas, are located approximately seven miles northeast of the town of Kermit and are surface frac sand mining and processing facilities, located on approximately 5,826 “gross” acres (the “Kermit Property”) of which 5,341 “net” acres are controlled (leases and fee-owned). After applying requisite mining setbacks and observing any easements and/or rights-of-way, approximately 4,521 acres (or 78% of the property) have been explored and are considered as either mineable frac sand resources or frac sand reserves.

Atlas owns a portion of the Kermit Property in fee (including the property on which the Kermit Mines are located). The remaining land is leased from various parties, and Atlas pays either a royalty or delay rental to the lessors to retain the leased properties.

The Monahans Mine, in Ward and Winkler counties, Texas, is located approximately three miles northeast of the town of Monahans and is a surface frac sand mining and processing facility, located on approximately 32,224 “gross” acres (the “Monahans Property”) which is entirely leased by Atlas. After applying requisite mining offsets, a total area covering approximately 11,187 acres (or 35%) of the Monahans Property has been explored with sufficient drilling and sampling to be considered, as of the date of this report, frac sand resources or frac sand reserves. Atlas has also completed a reconnaissance-level of exploration drilling and sampling work on an additional 9,575 acres (or an additional 30%) outside of the resource and reserve areas of the Monahans Property. This “exploration target” area has been drilled with a wider spacing (or less density) than the aforementioned frac sand resource and reserve areas; however, drilling and testing indicates these portions of the deposit exhibit similar characteristics, both in thickness and frac sand quality, to the reported frac sand resources and reserves. The general location of the subject mines is provided in Figure 1.1, following this page.

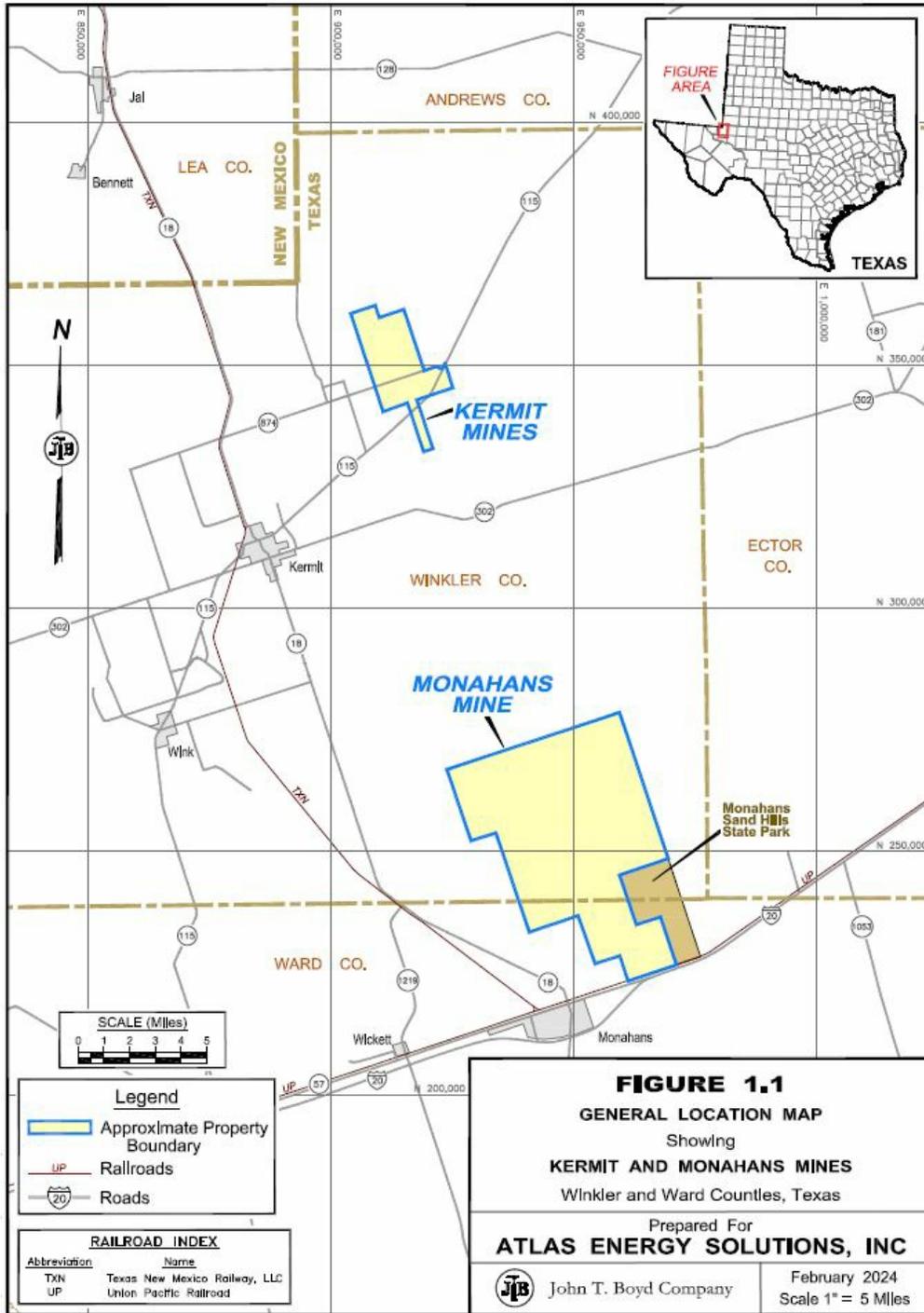
1.3. Geology

Frac sand is a naturally occurring, high silica content quartz sand with grains that are generally well-rounded and monocrystalline. The main difference between frac sand and other sands is that frac sand grains are relatively pure in composition, consisting almost entirely of quartz; other sands have numerous impurities that may be cemented to the quartz grains. The pure quartz composition of frac sand grains, along with being well-rounded and spherical in shape, gives these sands the characteristics (crush strength, high acid solubility, low turbidity) that are sought after by oil and gas producers for use in developing wells.

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Surficial geologic units overlying the properties and surrounding areas are predominantly Quaternary age unconsolidated deposits, ranging from windblown dunes and sheet sands to alluvial sands, silts, clays, and caliche. The Llano Estacado Caprock Escarpment marks the eastern-most extent of the surficial sand deposits. Winds transporting particles into the area are thought to have collided with the escarpment, slowing their velocity and dropping particles out of suspension where they have accumulated over time. Winnowing processes have caused some degree of particle sorting to occur. Due to the mechanisms and long distances of particle transport, sand grains were abraded and rounded as they reached their current locations. Quaternary unconsolidated deposition covers nearly all of the subject properties, with the surficial deposits on Atlas's properties noted as generally ranging from 60-ft to over 100-ft in thickness. Both the Kermit and Monahans properties contain no discernable overburden materials except for sparse areas of vegetation and roots that are removed during processing and are mineable from the surface down to the total defined depth of the deposits. Data from extensive crush testing along with the API RP-19C/ISO 13503-2 (API/ISO) testing performed on the composite samples by Atlas indicate little variability within the overall mineable deposits on each property.

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1.4.Exploration

Atlas contracted Westward Environmental, Inc. (Westward) to perform a series of drilling and sampling programs on the Kermit and Monahans properties, which occurred from June 2017 through September 2021.

The drilling and sampling programs were executed in an equivalent manner on each property as Westward supervised the field work and sampled each hole. Holes were drilled using a rotosonic drill rig, and each hole was sampled on 5-ft increments from the surface on the initial exploration drill programs and 10-ft increments on the follow up infill drilling programs. Westward geologists and geological technicians determined the terminus of the sampling interval of a hole, as drilling would be stopped when the amount of sand in a recovered interval was neither the first nor second most abundant material present in a given sample interval. All drilled intervals were geologically logged, photographed, and sampled in duplicate. One set of samples was retained by Atlas for archival purposes, while the other set of samples was sent to a lab for grain size analyses and proppant sand quality testing.

In 2017, an initial drilling and sampling program utilized widely spaced exploration drill holes, with nominal spacing of 3,000-ft to 4,500-ft between drill holes (one hole drilled per section of controlled property), in order to determine the depth and lateral extent of the sand deposits across the Kermit and Monahans properties. This phase of work resulted in 36 drill holes being drilled and sampled on the Kermit Property, and 53 drill holes being drilled and sampled on the Monahans Property. Sample analyses were performed by PropTester in Cyprus, Texas and FracTAL in St. Paul, Minnesota.

An infill drilling program was subsequently initiated in March 2018 to increase geologic confidence on each of the subject properties. This campaign consisted of completing an additional 25 drill holes on the Kermit Property and 27 drill holes on the Monahans Property. Upon completion of the infill drilling programs, each property had been drilled to a nominal 1,500-ft spacing within their respective initial mining areas, which provided enough geoscientific information to classify the infill drilled areas as Proven and Probable Reserves.

Most recently, Atlas retained BOYD to design a 2021 infill drilling and sampling campaign over select areas of the Kermit Property. This campaign was completed as Atlas considered constructing a second mine on the Kermit Property, increasing the existing frac sand reserve base of Kermit by approximately 3.5 sections of land (over 2,200 acres). An additional 26 drill holes were completed in late September 2021, following the same procedures undertaken during the first two campaigns.

A summary of all drilling completed to date on the Kermit and Monahans properties is included in Table 1.1.

	Rotosonic Drill Holes Completed By Drilling Campaign			Total
	2017	2018	2021	
Kermit Property	36	25	26	87
Monahans Property	53	27	-	80
Total	89	52	26	167

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1.5.Frac Sand Reserves and Quality

This technical report summary provides an estimate of frac sand reserves for Atlas's Kermit and Monahans mines in accordance with the requirements set forth in S-K 1300. These estimates were independently prepared by BOYD utilizing relevant mining, processing, economic (including independent estimates of capital, revenue, and cost), marketing, legal, environmental, socio-economic, and regulatory factors for each operation.

Estimates of mineral resources and reserves are always subject to a degree of uncertainty. The level of confidence that can be applied to a particular estimate is a function of, among other things: the amount, quality, and completeness of exploration data; the geological complexity of the deposit; and economic, legal, social, and environmental factors associated with mining the resource/reserve. BOYD used the definitions provided in S-K 1300 to describe the varying degree of certainty associated with the estimates reported here.

Estimates of frac sand resources are subdivided to reflect the different levels of geological confidence into measured (highest geological confidence), indicated, and inferred (lowest geological assurance). Upon application of modifying factors that include adjustments for mining loss, processing loss, and economic factors, a measured resource may be converted to either a proven or probable reserve, while an indicated resource may only be converted to a probable reserve. An inferred resource may not be converted to a reserve without further exploration, due to the lower level of geological confidence.

A mineral reserve is the economically mineable part of a measured or indicated mineral resource, which includes diluting materials and allowances for losses that may occur when the material is mined or extracted. Estimates of mineral reserves are subdivided to reflect geologic confidence, and potential uncertainties in the modifying factors, into proven (highest assurance) and probable.

In this report, the term "frac sand reserves" represents the tonnage and quality of product sand that will be available for sale after washing and drying the run-of-mine (ROM) sand. When material variations in thickness, depth, and/or sand quality occur between drill holes, the allowable spacing distance is reduced. The following drill hole spacing criteria were determined by the Qualified Person and used in this report to define the sand resources within Atlas's properties:

Classification	Spacing Requirement (ft) (Nominal Maximum)
Measured	1,500
Indicated	2,500
Inferred	5,000

BOYD's estimate of frac sand reserves for the Kermit and Monahans mines as of December 31, 2023, total 488.1 million tons of saleable product (i.e., greater than 140 mesh and less than 40 mesh in size). There are 337.6 million tons underlying the Kermit Property and 150.5 million tons underlying the Monahans Property.

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Table 1.2 presents the estimated frac sand reserves by product mesh size, reserve classification, and mineral ownership status for the Kermit and Monahans mines:

Table 1.2: Atlas Energy Solutions Reserves (As of December 31, 2023)

Control	Tons (000) By Classification and Mesh Size									
	40/70	Proven 70/140	Total	Probable			Total By Mesh Size			
				40/70	70/140	Total	40/70	70/140	Total	
				<u>Kermit Mines</u>						
Owned	81,869	67,718	149,587	254	317	571	82,123	68,035	150,158	
Leased	70,709	80,410	151,119	16,215	20,066	36,281	86,924	100,476	187,400	
Total	152,578	148,128	300,706	16,469	20,383	36,852	169,047	168,511	337,558	
				<u>Monahans Mine</u>						
Leased	90,294	58,000	148,294	1,372	819	2,191	91,666	58,819	150,485	

Projecting sales volumes of approximately 10.5 million tons per year, the expected life of the Kermit Mines' frac sand reserves are approximately 31 years. Likewise, at projected sales volumes of 5.0 million tons per year, the expected life of the Monahans Mine's frac sand reserves is approximately 29 years.

Additional in-place frac sand resources consist of: 1) measured and indicated resources that have not been formally included in mine plans by Atlas, and 2) inferred resources in areas that generally need additional exploration drilling and sampling to classify them as measured or indicated resources. These resources are estimated at 1.4 billion tons—including 170.5 million tons at the Kermit Mines and 1.3 billion tons at the Monahans Mine—and represent the in-place material prior to applying any mining and processing losses. Table 1.3 presents the estimated in-place frac sand resources, exclusive of those frac sand resources already converted to frac sand reserves, for the Kermit and Monahans mines:

Table 1.3: Atlas Energy Solutions Resources (As of December 31, 2023)

Resource Category	Acres	Average Sand Thick (ft)	Estimated In-Place Frac Sand Tons (000)		
			Owned	Leased	Total
			<u>Kermit Mines</u>		
Measured	165		2,750	16,636	19,386
Indicated	460		563	75,515	76,078
Inferred	800		-	75,076	75,076
Total	1,425	74	3,313	167,227	170,540
			<u>Monahans Mine</u>		
Measured	487		-	71,730	71,730
Indicated	785		-	102,755	102,755
Inferred	8,908		-	1,094,030	1,094,030
Total	10,180	57	-	1,268,515	1,268,515

PropTester performed API/ISO tests on composite samples created from sample material collected during the drilling programs on the Kermit and Monahans properties. A composite of the entire length of each selected hole was created, and for each composite sample, the testing labs created 40/70 mesh and 40/140 mesh product samples which were subjected to the full suite of API/ISO proppant sand tests.

Overall, this extensive testing indicates that a relatively uniform range of crush values exist through the entire depth of the deposit, except for one or two intervals where the caliche interval was not completely removed before performing the crush tests. These caliche intervals were about 1,000 psi less than all other intervals, and as such were not included in the summary quality data.

Combining the extensive crush testing conducted with the API/ISO testing performed on the composite samples, Atlas has completed a comprehensive review of grain characteristics for each of the reserve areas within each property. The data indicate little variability within the overall mineable deposit on each property.

Sample testing results are summarized in Table 1.4 below for each product size analyzed within each property:

Table 1.4: Proppant Characteristic Test Results for Kermit and Monahans Mines

Test	Average API/ISO Test Results By Product Size and Mine		Recommended Specification	40/140 mesh ⁽¹⁾⁽²⁾	
	40/70 mesh	40/140 mesh ⁽¹⁾⁽²⁾		Kermit	Monahans
Sphericity	Kermit 0.7	Monahans 0.7	≥ 0.6	Kermit 0.7	Monahans 0.7
Roundness	0.8	0.7	≥ 0.6	0.7	0.7
Acid Solubility (%)	1.1	0.9	≤ 3.0	2.6	1.6
Turbidity (NTU)	15.0	7.0	≤ 250	15.0	13.0
K-Value (000 psi)	7 - 8	7 - 8	-	10 - 11	10 - 11

(1)100 mesh proppant sand material currently does not have an API/ISO specification.

(2)test results were for a single 40/140 mesh product.

The extent to which the frac sand reserves may be affected by any known geological, operational, environmental, permitting, legal, title, variation, socio-economic, marketing, political, or other relevant issues has been reviewed as warranted. It is the opinion of BOYD that Atlas has appropriately mitigated, or has the operational acumen to mitigate, the risks associated with these factors. BOYD is not aware of any additional risks that could materially affect the development of the frac sand reserves.

Based on our independent estimate and operations review, we have a high degree of confidence that the estimates shown in this report accurately represent the available frac sand reserves controlled by Atlas, as of December 31, 2023.

1.6.Operations

1.6.1.Mining

The Kermit and the Monahans mines employ dredging as the primary sand extraction method. Most of the mineable areas at each property have minimal overburden and vegetation; as such, sand excavation normally begins at the surface throughout most of the mine plan area. The water forming the dredge ponds is sourced from a shallow aquifer which lies below each property. The dredge is a floating barge that lowers an arm or "ladder" with an attached submersible pump to the bottom of the deposit. Sand is pumped through poly pipe to the mine skid where waste material is removed. The sand is then further pumped to the wet plant with tailings and excess water returning to the dredge pit. All three mines operate continuously 24 hours a day, seven days a week. Conceptual mine plans with sequencing are illustrated in Chapter 7 of this report for the subject mine sites.

1.6.2.Processing

The first Kermit processing facility was commissioned in July 2018 with a nameplate capacity of 5.5 million tons per year of finished product, and a second Kermit processing facility was constructed in 2023, increasing total nameplate capacity at Kermit to 11 million tons per year. The Monahans processing facility was commissioned in October 2018 with a nameplate capacity of approximately 5.5 million tons per year of finished product. The Kermit and Monahans operations predominantly produce 40/70 mesh and 40/140 mesh frac sand. Since the commissioning of the wet plants in 2018 through the end of 2023, the recorded process yield for the plants is approximately 90%. That is, for every 100 tons of ROM material fed into the plant, 90 tons of saleable frac sand is produced. It should be noted that these achieved process yields are slightly different than the overall process yields used to estimate the frac sand resources and reserves which are based on the results of drill hole sample testing at each property.

Once the material has been mined from the pit, it proceeds to the processing plants as follows:

•Wet Process Plant- ROM material from the dredge is pumped to the wet plant and the greater than 40 mesh and less than 140 mesh sand and silt material is removed.

•Dry Process Plant- The damp 40/140 mesh material produced by the wet process plant is dried and screened into finished products. An on-site quality laboratory samples and monitors production and shipping sand quality daily.

•Storage and Loadout- Finished products are stored in silos and gravity loaded from under the silos into highway trucks for transport to the customer. The Atlas loadout operates 24 hours per day, 7 days per week every day of the year.

1.6.3.Infrastructure

Each plant is supplied with three-phase line power. Substations access 138 kV lines and step voltage down to a 12.5 kV line which delivers power to the plants. Line natural gas is supplied to the plants. Natural gas line capacity and substation capacity at each of the plants is sufficient to serve much more than 100% of Atlas's current requirements.

Plant process water is recycled within the plants and is pumped from the dredge pond reservoir. Additional makeup water is obtained from a wellfield containing 14 water wells having an approximate capacity of 1,600 gallons per minute (gpm) at Kermit, and 21 water wells having an approximate capacity of 2,500 gpm at Monahans. These wells are only utilized as a backup water supply.

On-site facilities at each site include a scale house, office, shop, and a quality laboratory located in the dry process plants. The surface facilities currently located at the mines are well constructed and have the necessary capacity/capabilities to support the three operations.

1.7.Financial Analysis

1.7.1.Market Analysis

Permit submissions for horizontal oil and gas wells in the Permian Basin indicate a continuation of strong drilling ahead. Utilizing data from Baker Hughes and the Railroad Commission of Texas (RRC), the total number of permits filed ranges between 1,000 and 1,600 per quarter in 2023, a strong rebound from the pandemic lows of 2020.

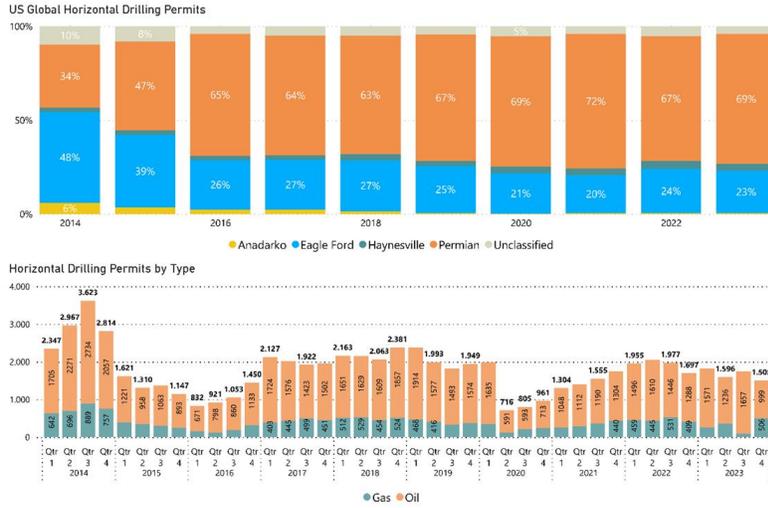
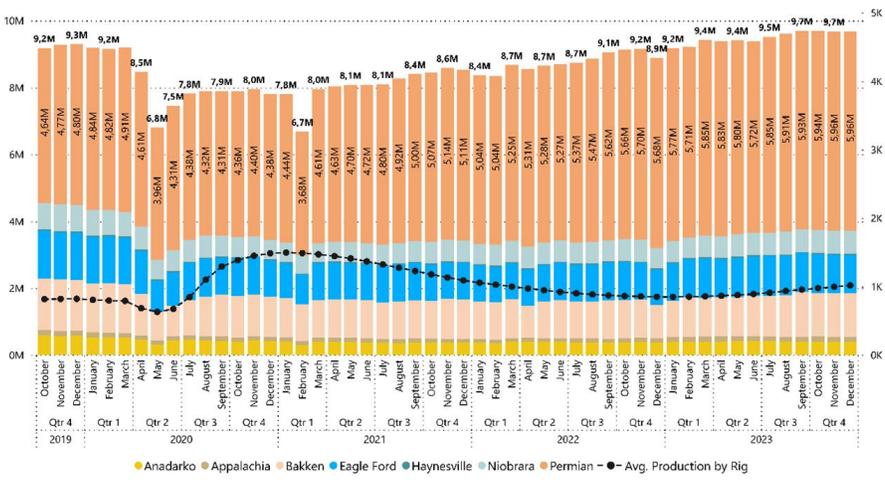


Figure 1.2: Permian Basin HZ Permit Submissions

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Domestic oil production continues to increase with the Permian leading the way at almost 6 million barrels per day by late 2023.



Source EIA (U.S. Energy Information Administration)
Figure 1.3: Oil Production (bbl/d)

Current frac sand production in the Permian Basin is estimated at 60 million to 65 million tons per year with fairly balanced demand and stable pricing. BOYD anticipates stable frac sand pricing substantially above the \$30 per ton pricing used to estimate frac sand reserves for the subject mines. Additionally, we anticipate continued upward sand consumption in the basin due to economic and geopolitical influences on energy demand.

1.7.2.Sales, Production, and Cost Forecast

1.7.2.1.Kermi Mines

Annual forecasted ROM production of approximately 12.4 million tons per year is based on the dry plants producing 10.5 million tons per year of saleable product after a processing (wet and dry processing plant) loss of approximately 15%, as discussed in Chapter 6. Forecasted dry processing plant production is within the Kermi Mines’ current infrastructure capacities and capabilities.

As noted in Table 1.5, the dry processing plants are projected to produce approximately 10.5 million tons per year of saleable 40/70 mesh and 40/140 mesh frac sand, as discussed in Chapter 6.

The forecasted sales price of \$30 per ton sold, for all products, presented in Table 1.5 is based on long-term forecasted average product prices as provided by Atlas, and reflects the doubling of sales to 10.5 million tons per year.

Table 1.5: Kermit Mines' Sales Projections

	2024	2025	2026	2027	2028
Tons Sold (000)	10,500	10,500	10,500	10,500	10,500
Revenues (\$ 000)	315,000	315,000	315,000	315,000	315,000
Product Pricing (\$ per ton sold)	30.00	30.00	30.00	30.00	30.00

Table 1.6 following this page, presents the cash cost projections for the period 2024 through 2028. Operating cost projections were provided by Atlas and are based on prior year actuals. BOYD considered their estimates to be reasonable. However, adjustments were made based on our review of historical operating costs as well as other information and our experience with such operations.

Table 1.6: Kermit Mines' Cash Cost of Production Projections

	2024	2025	2026	2027	2028
Total Cash cost of Production (\$ 000)	92,265	91,818	91,818	91,818	91,818
\$ per ton sold	8.79	8.74	8.74	8.74	8.74

1.7.2.2. Monahans Mine

Annual forecasted ROM production of approximately 5.7 million tons per year is based on the dry plant producing 5.0 million tons per year of saleable product after a processing (wet and dry processing plant) loss of approximately 12%, as discussed in Chapter 6. Forecasted dry processing plant production is within the operation's current infrastructure capacities and capabilities.

As noted in Table 1.7, the dry processing plant is projected to produce approximately 5.0 million tons per year of saleable 40/70 mesh and 40/140 mesh frac sand, as discussed in Chapter 6.

The forecasted sales price of \$30 per ton sold, for all products, presented in Table 1.7 is based on forecasted average product prices for the long term as provided by Atlas. We opine that this is a reasonable average sales price.

Table 1.7: Monahans Mine's Sales Projections

	2024	2025	2026	2027	2028
Tons Sold (000)	5,000	5,000	5,000	5,000	5,000
Revenues (\$ 000)	150,000	150,000	150,000	150,000	150,000
Product Pricing (\$ per ton sold)	30.00	30.00	30.00	30.00	30.00

Table 1.8 presents the cash cost projections for the period 2024 through 2028. Operating cost projections were provided by Atlas and are based on prior year actuals. BOYD considered their estimates to be reasonable. However, adjustments were made based on our review of historical operating costs as well as other information and our experience with such operations.

Table 1.8: Monahans Mine's Cash Cost of Production Projections

	2024	2025	2026	2027	2028
Total Cash cost of Production (\$ 000)	57,450	57,250	57,250	57,250	57,250
\$ per ton sold	11.49	11.45	11.45	11.45	11.45

1.7.3.Economic Analysis

The Discounted Cash Flow - Net Present Value (DCF-NPV) estimates presented herein were made for purposes of confirming the general economic viability of the reported frac sand reserves and not for purposes of valuing Atlas, the Kermit and Monahans operations, or its assets. Internal rate-of-return (IRR) and project payback were not calculated, as there were no initial investments considered in the Kermit and Monahans financial models.

All DCF-NPV values are as of January 1, 2024, for the Kermit and Monahans operations. The intent of this exercise is to demonstrate that the operations generate positive cash flows (based on a 10% discount rate), on a pre-tax and after-tax basis, which supports their statements of frac sand reserves.

Resource tons have not been included in the DCF-NPV analyses, although substantial additional saleable product may be available as the in-place frac sand resources and other exploration target areas are converted to reserves.

1.7.3.1.Kermit Mines

Table 1.9 below presents the five-year pre-tax and after-tax cash flow projections based on the proposed LOM production schedule and revenue, cost of production, and capital expenditures (CapEx) estimates discussed above for the Kermit Mines.

Table 1.9: Kermit Mines' Five-Year Cash Flow Summary

	2024	2025	2026	2027	2028	Total
Total Tons Sold (000)	10,500	10,500	10,500	10,500	10,500	52,500
Revenues (\$ 000)	315,000	315,000	315,000	315,000	315,000	1,575,000
Cost of Production (\$ 000)	92,265	91,818	91,818	91,818	91,818	459,537
CapEx (\$ 000)	3,300	3,300	3,300	3,300	3,300	16,500
Net Pre-Tax Cash flow (\$ 000)	219,435	219,882	219,882	219,882	219,882	1,098,963
Federal Income Tax (\$ 000)	43,786	43,811	43,741	43,672	43,603	218,613
Net After-Tax Cash Flow (\$ 000)	175,649	176,071	176,141	176,210	176,279	880,350

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Three DCF-NPVs on a pre-tax basis and three DCF-NPVs on an after-tax basis, using discount rates of 8%, 10%, and 12%, were calculated utilizing the cash flows above. The DCF-NPV values used mid-year discounting and all cash flows were on a constant dollar basis. Table 1.10 summarizes the results of the NPV analyses:

**Table 1.10: Kermit Mines'
DCF-NPV Analysis**

	DCF-NPV (\$ millions)		
	8%	10%	12%
Pre-Tax	2,613	2,196	1,887
After-Tax	2,100	1,764	1,514

Please refer to Table 12.3, in Chapter 12, for the LOM cash flow analysis and corresponding pre-tax and after-tax DCF-NPV analyses at a 10% discount rate.

1.7.3.2. Monahans Mine

Table 1.11 below presents the five-year pre-tax and after-tax cash flow projections based on the proposed LOM production schedule and revenue, cost of production, and CapEx estimates discussed above for the Monahans Mine.

Table 1.11: Monahans Mine's Five-Year Cash Flow Summary

	2024	2025	2026	2027	2028	Total
Total Tons Sold (000)	5,000	5,000	5,000	5,000	5,000	25,000
Revenues (\$ 000)	150,000	150,000	150,000	150,000	150,000	750,000
Cost of Production (\$ 000)	57,450	57,250	57,250	57,250	57,250	286,450
CapEx (\$ 000)	3,300	3,300	3,300	3,300	3,300	16,500
Net Pre-Tax Cash Flow (\$ 000)	89,250	89,450	89,450	89,450	89,450	447,050
Federal Income Tax (\$ 000)	16,993	16,966	16,896	16,827	16,758	84,439
Net After-Tax Cash Flow (\$ 000)	72,257	72,484	72,554	72,623	72,692	362,611

Three DCF-NPVs on a pre-tax basis and three DCF-NPVs on an after-tax basis, using discount rates of 8%, 10%, and 12%, were calculated utilizing the cash flows above. The DCF-NPV values used mid-year discounting and all cash flows were on a constant dollar basis.

Table 1.12 summarizes the results of the pre-tax and after-tax analyses:

**Table 1.12: Monahans Mine's
DCF-NPV Analysis**

	DCF-NPV (\$ millions)		
	8%	10%	12%
Pre-Tax	1,046	884	762
After-Tax	848	717	619

Please refer to Table 12.3, in Chapter 12, for the LOM cash flow analysis and corresponding pre-tax and after-tax DCF-NPV analyses at a 10% discount rate.

1.8. Permitting and Compliance

Several permits are required by federal and state law for mining, processing, and related activities at each of the Kermit and Monahans operations. BOYD reviewed the permits necessary to support continued operations at Kermit and Monahans. The approved permits and certifications appear to be valid, in good standing, and adequate for the continued operation of the mining and processing facilities. New permits, permit revisions, and/or renewals may be necessary from time to time to facilitate future operations. Given sufficient time and planning, Atlas should be able to secure new permits, as required, to maintain its planned operations within the context of current regulations.

Under current regulations, the State of Texas does not require reclamation or remediation of surface mined lands by aggregate (including frac sand) operations. While there are no formal state or federal reclamation obligations, the leased portions of the Monahans property have defined reclamation requirements for post mining land use, including removal of any equipment, structures, and other improvements. Additionally, Atlas voluntarily participates in a Candidate Conservation Agreement with Assurances (CCAA) for the Dune Sagebrush Lizard (DSL). This mitigates DSL regulatory risk for each of the mining operations. Atlas has the option to either set aside acreage for the DSL habitat or contribute cash based on the acreage within the habitat area.

The Kermit and Monahans mines are regulated by TCEQ on matters involving air and water pollution and inspected periodically by the state if issues arise.

Mine safety is regulated by the U.S. Department of Labor's Mine Safety and Health Administration (MSHA). MSHA inspects the facilities a minimum of twice yearly. Atlas's safety record compares favorably with its regional peers.

BOYD is not aware of any regulatory violation or compliance issue that would materially impact the reported frac sand reserves for the subject mines.

1.9. Conclusions

It is BOYD's overall conclusion that Atlas's frac sand resources and frac sand reserves, as reported herein: (1) were prepared in conformance with accepted industry standards and practices, and (2) are reasonably and appropriately supported by technical evaluations, which consider all relevant modifying factors. We do not believe there is other relevant data or information material to the properties that would render this technical report summary misleading. Our conclusions represent only informed professional judgment.

Given the operating history and actual performance of Atlas through the COVID-19 pandemic and volatile energy market conditions, we consider the going concern to be viable under the current and foreseeable operating environment. A general assessment of risk is presented in the relevant sections of this report.

The ability of Atlas, or any mine operator, to recover all of the reported frac sand reserves is dependent on numerous factors that are beyond the control of, and cannot be anticipated by, BOYD. These factors include mining and geologic conditions, the capabilities of management and employees, the securing of required approvals and permits in a timely manner, future sand prices, etc. Unforeseen changes in regulations could also impact performance. Opinions presented in this report apply to the site conditions and features as they existed at the time of BOYD's investigations and those reasonably foreseeable.

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2.0 INTRODUCTION

2.1.Registrant

Atlas provides high quality proppant (frac) sand products, as well as proppant supply chain logistics services to the Permian Basin oil and gas industry. The company was founded in 2017 by long-time exploration and production (E&P) operators and is headquartered in Austin, Texas. Mining and processing operations commenced on their Kermit, Texas property in June 2018, and at their Monahans, Texas property in July 2018. In 2023, Atlas added a second mining and processing facility at their Kermit property.

The company's common stock is listed on the New York Stock Exchange under the symbol AESI. Additional information regarding Atlas can be found on their website at www.atlas.energy.

2.2.Purpose and Terms of Reference

Atlas retained BOYD to complete independent estimates of frac sand resources and reserves and a technical report summary encompassing their sand mines in accordance with the disclosure requirements set forth in S-K 1300. As such, the purpose of this TRS is threefold: (1) to summarize technical and scientific information for the subject mining properties, (2) to provide the conclusions of our review of the information for each of the properties, and (3) to provide statements of frac sand resources and frac sand reserves for the Kermit and Monahans mines.

BOYD's opinions and conclusions are based on our detailed review of the supporting geologic, technical, and economic information provided by Atlas, which were used in formulating the estimates of frac sand resources and frac sand reserves disclosed in this report. We independently estimated the frac sand resources and frac sand reserves from first principles using exploration information provided by Atlas or by third-party experts engaged by Atlas. We employed standard engineering and geoscience methods, or a combination of methods, that we considered to be appropriate and necessary to establish the conclusions set forth herein. As in all aspects of mining property evaluation, there are uncertainties inherent in the interpretation of engineering and geoscience data; therefore, our conclusions necessarily represent only informed professional judgment.

The ability of Atlas, or any mine operator, to recover all of the estimated frac sand reserves presented in this report is dependent on numerous factors that are beyond the control of, and cannot be anticipated by, BOYD. These factors include mining and geologic conditions, the capabilities of management and employees, the securing of required approvals and permits in a timely manner, future sand prices, etc. Unforeseen changes in regulations could also impact performance. Opinions presented in this report apply to the site conditions and features as they existed at the time of BOYD's investigations and those reasonably foreseeable.

This report is intended for use by Atlas, subject to the terms and conditions of its professional services agreement with BOYD. We also consent to Atlas filing this TRS with the SEC pursuant to S-K 1300. Except for the purposes legislated under US securities law, any other uses of or reliance on this report by any third party is at that party's sole risk.

2.3. Expert Qualifications

BOYD is an independent consulting firm specializing in mining-related engineering and financial consulting services. Since 1943, BOYD has completed over 4,000 projects in the United States and more than 90 other countries. Our full-time staff comprises mining experts in: civil, environmental, geotechnical, and mining engineering; geology; mineral economics; and market analysis. Our extensive experience in frac sand resource and frac sand reserve estimation, and our knowledge of the subject properties, provides BOYD an informed basis on which to opine on the frac sand resources and frac sand reserves available at the Kermit and Monahans mines. An overview of BOYD can be found on our website at www.jtboyd.com.

The individuals primarily responsible for the preparation of this report and the estimates of frac sand resources and frac sand reserves herein are by virtue of their education, experience, and professional association considered qualified persons (QPs) as defined in S-K 1300.

Neither BOYD nor its staff employed in the preparation of this report have any beneficial interest in Atlas, and are not insiders, associates, or affiliates of Atlas. The results of our assignment were not dependent upon any prior agreements concerning the conclusions to be reached, nor were there any undisclosed understandings concerning any future business dealings between Atlas and BOYD. This report was prepared in return for fees based on agreed upon commercial rates, and the payment for our services was not contingent upon our opinions regarding the project or approval of our work by Atlas and its representatives.

2.4. Principal Sources of Information

The information, estimates, opinions, and conclusions presented herein are informed by: (1) data, reports, and other information provided by Atlas; (2) discussions with Atlas personnel; (3) records on file with regulatory agencies; (4) data, reports, and other information from public sources, and (5) nonconfidential information in BOYD's possession.

The basis for this report is the following previously compiled BOYD technical reports:

- BOYD Report No. 3871.000, dated December 7, 2018, which provided an independent estimate of frac sand resources and frac sand reserves for the Kermit and Monahans mines as of the commencement of mining in 2018.
- BOYD Report No. 3871.006, dated May 13, 2022, which was Atlas's first TRS for the Kermit and Monahans frac sand mines.

The following information was provided by Atlas:

•Exploration reports:

- "Geologic Exploration & Reserves Estimate: Atlas 1", prepared by Westward Environmental, Engineering, Natural Resources (Westward), dated November 2017.
 - "Exploration Summary Report, Atlas 2 Site (AT2), Monahans, Ward County, Texas, Project No.: 10977-025", prepared by Westward, dated July 17, 2018.
 - "Infill Drilling Summary Report, Atlas 1, Kermit, Winkler County, Texas", prepared by Westward, dated October 28, 2021.
-

- Exploration records (e.g., drill hole location maps, drilling logs, and lab testing summaries) associated with the above noted exploration reports.
- Mapping data, including:
 - Property control boundaries
 - Infrastructure locations
 - Easement and right-of-way boundaries
 - Topographic site surveys
 - Recent mining extents
- Overview of mining and processing operations, including detailed flow diagrams.
- Financial forecasting models.
- Historical information, including:
 - Production reports and reconciliation statements
 - Financial statements
 - Product sales and pricing
 - Mine plans
 - Site plans
 - Operational data
- Files related to mining and operating permits.

Any other information from sources external to BOYD and/or Atlas is referenced accordingly.

The data and workpapers used in the preparation of this report are on file in our offices.

2.4.1. Personal Inspections

Personal inspections of the Atlas operations were made by two of BOYD's senior geology and mining staff, both qualified persons and co-authors of this report, on April 4, 2018. The site visits included: (1) observation of the active mining operations, (2) a tour of each mine site's surface infrastructure, and (3) a tour of the process plants and truck loadouts. BOYD's representatives were accompanied by Atlas's General Manager who openly and cooperatively answered questions regarding, but not limited to: site geology, mining conditions and operations, equipment usage, labor relations, operating and capital costs, current and proposed processing operations, and frac sand marketing.

Significant operational changes to the mines since the time of our site visit include: (1) the transition to utilizing a combination of dry and dredge mining methods (dredges were not being utilized at the time of the site visit), and (2) the recent addition of the new mining and processing facility and subsequent production capacity expansion at Kermit.

2.4.2. Reliance on Information Provided by the Registrant

In the preparation of this report, we have relied, exclusively and without independent verification, upon information furnished by Atlas with respect to:

- Property title and status
- Encumbrances, easements, and rights-of-way
- Permits, bonds, and reclamation liability
- Sustainability initiatives
- Surface tailings management
- Mine closure requirements and plans
- Monitoring/compliance requirements for protected areas/species
- Community relations
- Market overview and strategy
- Product specifications
- Marketing and sales contracts
- Income tax rates
- Inflation and discount rates
- Exploration results
- Current and historical production
- Current and historical costs of operation and production

Our opinions and conclusions regarding this information are provided in the relevant sections of this report.

2.4.3. Verification of Information

BOYD exercised due care in reviewing the information provided by Atlas within the scope of our expertise and experience (which is in technical and financial mining issues) and concluded the data are valid and appropriate considering the status of the subject properties and the purpose for which this report was prepared.

We have no reason to believe that any material facts have been withheld, or that further analysis may reveal additional material information. However, the accuracy of the results and conclusions of this report are reliant on the accuracy of the information provided by Atlas. While we are not responsible for any material omissions in the information provided for use in this report, we do not disclaim responsibility for the disclosure of information contained herein which is within the realm of our expertise.

2.4.4. Other Relevant Data and Information

BOYD is not aware of any additional information which would materially impact the frac sand resource and frac sand reserve estimates reported herein.

2.5. Report Version

The effective (i.e., "as of") date of this TRS is December 31, 2023. The estimates of frac sand resources and frac sand reserves and supporting information presented in this report are effective as of December 31, 2023.

This is the second TRS filed for Atlas's Kermit and Monahans mines and supersedes the previously filed TRS (BOYD Report No. 3871.006). The user of this document should ensure that this is the most recent disclosure of frac sand resources and frac sand reserves for Atlas's Kermit and Monahans mines, as this report is no longer valid if more recent estimates are available.

2.6. Units of Measure

The US customary measurement system has been used throughout this report. Tons are dry short tons of 2,000 pounds-mass. Historic prices and costs are presented in nominal (unadjusted) dollars. Future dollar values are expressed on a constant (unescalated) basis as of the effective date of this report.

3.0 PROPERTY OVERVIEW

3.1. Description and Location

Referring to Figure 1.1 (General Location Map), the Kermit and Monahans properties are approximately 15 miles apart. From the Kermit Property, it is approximately a 40-mile drive southeast to reach the Monahans Property.

3.1.1. Kermit Mines

The two Kermit Mines, in Winkler County, Texas, are active surface frac sand mining and processing operations, located on approximately 5,826 “gross” acres (the “Kermit Property”) of which 5,341 “net” acres are controlled (leases and fee-owned) by Atlas. After applying requisite mining setbacks and observing any easements and/or rights-of-way, approximately 4,521 acres (or 78% of the property) have been explored and are considered as either mineable frac sand resources or frac sand reserves.

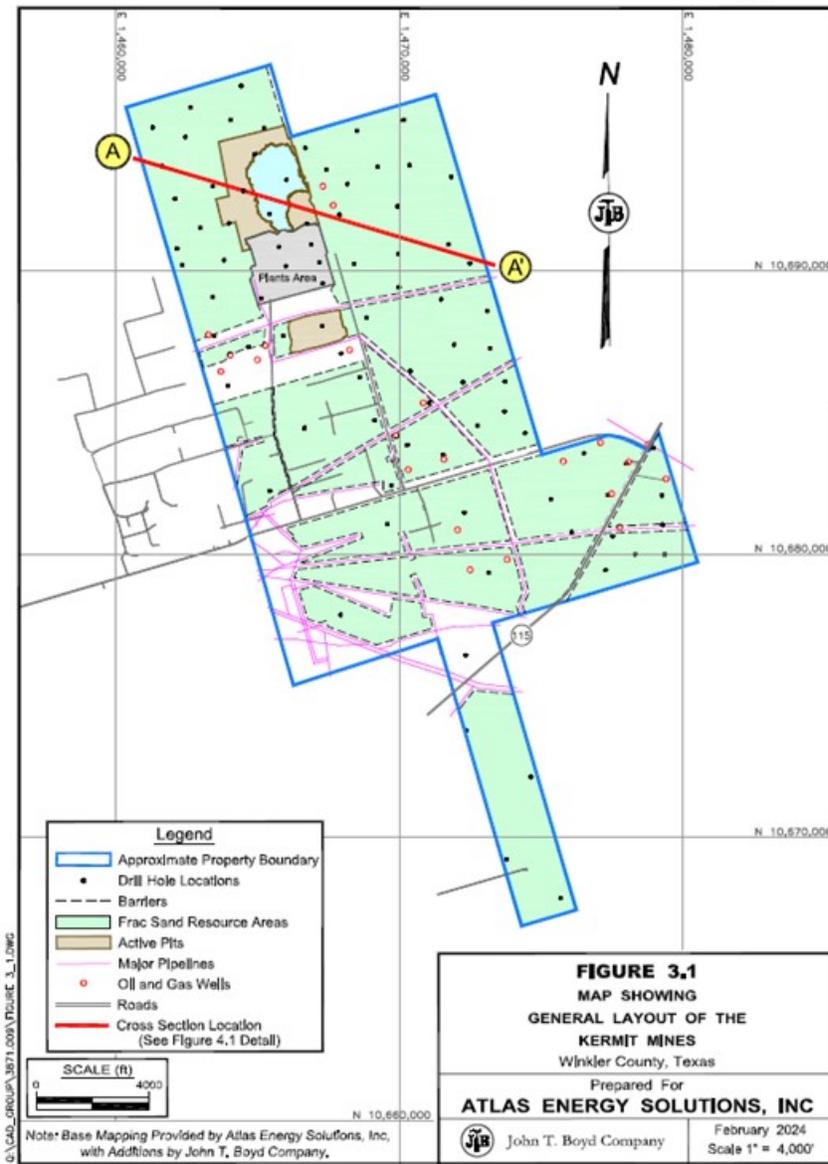
The Kermit operations are located approximately seven miles northeast of the town of Kermit, with a majority of the property on the north side of State Route 115. The southeast corner of the Texas-New Mexico border is less than five miles from the northwest corner of the property.

Geographically, Kermit’s frac sand processing plants are located at approximately 31° 58’ 6.29” N latitude and 103° 0’ 39.46” W longitude. Please refer to Figure 3.1, following this page, which illustrates the general layout of the Kermit Mines.

3.1.2. Monahans Mine

The Monahans Mine, in Ward and Winkler Counties, Texas, is an active surface frac sand mining and processing operation, located on approximately 32,224 “gross” acres (the “Monahans Property”) which is entirely leased by Atlas. After applying requisite mining setbacks and observing any easements and/or rights-of-way, approximately 11,187 acres (or 35% of the property) have been explored and are considered as either mineable frac sand resources or frac sand reserves. Atlas has also completed more widely spaced and reconnaissance-level exploration drilling and sampling work on an additional 9,575 acres (or 30% of the property) outside of the above-described resource and reserve areas, which are being reported as “exploration target” areas.

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Drilling density in the exploration target areas is more widely-spaced, resulting in less geologic confidence within these areas; although drilling and testing results indicate very similar characteristics, both in thickness and frac sand quality, to the frac sand resource and frac sand reserve areas within the Monahans Property.

The Monahans operation is located approximately three miles northeast of the town of Monahans and is situated on the north side of Highway 20. Monahans Sand Hills State Park borders the southeastern corner of the property.

Geographically, the Monahans Mine's frac sand processing facility is located at approximately 31° 39' 32.53" N latitude and 102° 52' 55.46" W longitude. Please refer to Figure 3.2, following this page, which illustrates the general layout of the Monahans Mine.

3.2. History

Since the first "in-basin" frac sand mine opened in August 2017 and began selling frac sand to the Permian Basin oil and gas industry, numerous mines have opened in the general vicinity of the Kermit and Monahans operations.

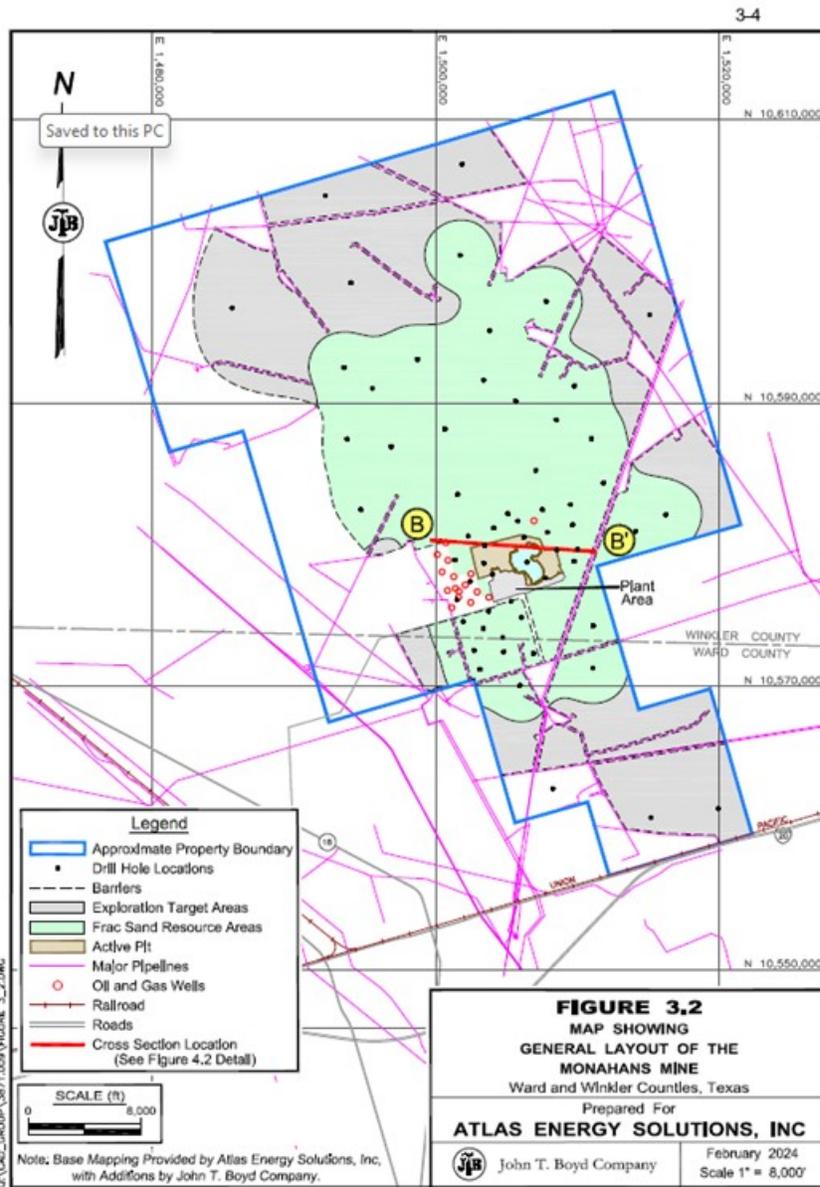
Atlas began developing the Kermit and Monahans properties by completing initial subsurface exploration, sampling, and testing work mid-2017. Operations commenced on both properties in mid-late 2018. Ongoing development of the properties has continued since, with additional exploration work completed in 2021, and construction of a second mining and processing facility at Kermit in 2023.

3.3. Property Control

Property control data provided for the Kermit and Monahans properties included maps, mining lease agreements, and royalty agreements, which have been accepted as being true and accurate for the purpose of this report.

Under the Monahans Lease and the Kermit Royalty Agreement, Atlas makes monthly royalty payments to Permian Dunes Holding Company, LLC, based on a percentage of their gross monthly proppant sand sales. The lease also includes an annual minimum royalty payment in the amount of \$1,000,000 (the "Minimum Annual Royalty Payment") in any year of the term following an occurrence of a Capital Event. Royalty expenses are recorded as products are sold, and is included in cost of sales, totaling less than 5% of costs of sales.

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3.3.1.Kermit Property

The Kermit Property comprises approximately 5,826 “gross” acres of which 5,341 “net” acres are controlled by Atlas (3,887 acres leased and 1,454 acres owned in fee).

3.3.2.Monahans Property

The Monahans Property comprises approximately 32,224 “gross” acres which is entirely leased by Atlas.

3.4.Adjacent Properties

Several existing frac sand mining operations are located in the general vicinity of Atlas’s Kermit and Monahans frac sand mines, including ProFrac’s Kermit and Monahans mines; Hi-Crush’s Kermit Mine; and Black Mountain’s Vest and El Dorado mines located between Atlas’s mines.

3.5.Regulation and Liabilities

Mining and related activities for the Kermit and Monahans operations are predominantly regulated by the TCEQ. The subject mines operate under several permits and must comply with various federal, state, and municipal law regulations that do not require specific permits. Atlas reports that necessary permits are in place or applied for to support immediate operations. New permits or permit revisions may be necessary from time to time to facilitate future operations. Given sufficient time and planning, Atlas should be able to secure new permits, as required, to maintain its planned operations within the context of current regulations.

Atlas participates in a voluntary CCAA for the DSL. The agreement, which Atlas signed in January 2021, lasts for 23 years. Their voluntary participation in the CCAA effectively mitigates DSL regulatory risk for Atlas’s Kermit and Monahans mining operations.

Atlas can either set aside acreage for DSL habitat or contribute cash to continue participating in the CCAA. Atlas holds significant sand acreage outside of their current resources and reserves that would be able to be contributed or set aside for the CCAA, allowing them to continue mining operations, even if the DSL is listed as an endangered species. Atlas did not inform BOYD of any issues related to the DSL with regards to mining of the Kermit and Monahans properties.

To the extent known to BOYD, there are no violations, fines, liens, or other significant factors and risks that may affect access, title, or the right or ability to perform work on the Kermit or Monahans properties.

3.6.Accessibility, Local Resources, and Infrastructure

3.6.1.Kermit Property

The Kermit Property is located near small rural towns in western Texas and southeastern New Mexico. The surrounding region has a well-established history of oil and gas production, being located within the center of the Permian Basin. Winkler and the surrounding counties have a combined population of over 280,000 people, according to 2020 population estimates by the Texas Demographic Center and Lea County, New Mexico.

General access to the Kermit Property is via a well-developed network of primary and secondary roads serviced by state and local governments. These roads offer direct access to the mines and processing facilities, and are generally open year-round. Primary vehicular access to the property is via SR 115, running north-south. Various state highways (302, 115, 18, 128) in Texas and New Mexico are accessible to the subject property and provide primary access to various portions of the oil and gas fields.

The Midland International Air and Space Port is located approximately 45 miles southeast of the Kermit Mines, and there are additional local/regional airports located within a 65-mile radius of the Kermit Property.

With regards to utilities, three phase electrical power is supplied to the property from a local utility, a natural gas line supplies gas to the dry plants, and other miscellaneous services are readily available. Water is gathered in a central collection pond or mine pit reservoir which acts as the primary source of water. In addition, 14 water wells drilled throughout the property function as a backup source of water.

3.6.2.Monahans Property

The Monahans Property is located near small rural towns in western Texas. The region has a well-established history of oil and gas production, being located within the center of the Permian Basin. Ward, Winkler, and the surrounding counties have a combined population of over 225,000 people, according to 2020 population estimates by the Texas Demographic Center.

General access to the Monahans Property is via a network of primary and secondary roads serviced by state and local governments. These roads offer direct access to the mine and processing facilities and are generally open year-round. Primary vehicular access to the property is via SH 18, which runs northeast-southwest, and Interstate 20 which also runs northeast-southwest below the southern boundary of the property. These roads provide access to various portions of the oil and gas fields. In addition, a connection to the UP railroad via the Texas-New Mexico railroad branch line is located in the city of Monahans.

The Midland International Air and Space Port is approximately 40 miles east of the Monahans operation, and there are additional local/regional airports located within a 50-mile radius of the Monahans property.

Regarding utilities to the property, three phase electrical power is supplied from a local utility, a natural gas line supplies gas to the dry plant, and other miscellaneous services are available. Water is gathered in a central collection pond which acts as the primary source of water. In addition, 21 water wells drilled throughout the property provide a backup supply of water.

3.7.Pysiography

The Kermit and Monahans properties are situated within the Texas Great Plains physiographic province, a region encompassing much of northwestern and western Texas. The surrounding areas generally consist of desert valleys covered with windblown sheet and dune sands, high plains covered with thick alluvium (the Llano Estacado or Staked Plains), or plateaus consisting of thin carbonate-based soils (the Caprock Escarpment). The two properties encompass a majority of the active dune complexes found in this area. The plateau areas, typically covered by a weathering-resistant caliche (a hardened natural cement of calcium

carbonate that binds other materials—such as gravel, sand, clay, and silt), may abruptly stand up to 1,000 ft above the plains. Much of the region may be covered by various types of desert scrub grasses, sages, yuccas, junipers, shin oaks, and mesquites.

Surface elevations across the properties range from approximately 2,960 ft to 3,050 ft above mean sea-level (AMSL) on Kermit, and 2,660 ft to 2,930 ft AMSL on Monahans.

There are no natural surface waters present on either property, however, a perched groundwater table is located approximately 20 ft below the present ground surface, which allows Atlas to dredge mine the remaining sand after initially dry mining to the water table.

Land cover in the immediate area consists predominantly of a mixture of shinnery oak, grasses, and other various scrub vegetation.

3.8.Climate

In and around the general area of the Kermit and Monahans mines, summers are long, hot, and humid; winters are short, cold, and dry; skies are generally clear year-round.

The hot season generally spans from May through September when average daily high temperatures often reach 88°F or higher, and lows are above 57°F. The hottest month is either June or July when highs often reach 97°F. The cool season generally spans November to February when average highs are rarely above 70°F and lows are often near or below freezing (32°F). The coldest month of the year is generally January, with an average low of 33°F.

Annual precipitation may vary widely from year to year, however rainfall generally totals 14 to 15 inches annually, with little to no snowfall.

In general, the operating season for Atlas's Kermit and Monahans mines is year-round. Adverse weather conditions are seldom expected to restrict or interfere with mining, processing, and loading operations; however, extreme weather conditions may temporarily impact operations. Periodic flooding is possible during heavy rainfall events.

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4.0 GEOLOGY

4.1. Regional Geology

Surface sand formations are present across much of the area in and around the Kermit and Monahans properties. Both properties are located within an active sand dune complex, consisting of large and open sand dunes exposed at the surface. The region is bordered to the east by the Llano Estacado Caprock Escarpment, and caliche outcrops to the west. Much of the surrounding area contains surficial deposits consisting primarily of windblown Quaternary age sheet sands, ancient dunes and dune ridges, and undivided sand and silt deposits. The frac sand resources and frac sand reserves of the Kermit and Monahans mines are hosted in these surficial sand dunes.

The origins of these deposits are believed to be a combination of eroded bedrock material from the southern Rocky Mountains, and locally eroded Ogallala Formation sandstone. As portions of the southern Rockies were eroded via weathering, particles were carried to the Pecos River. Ancient flooding events of the Pecos River resulted in the suspended particles being deposited into flood plains. Once flood waters receded, winds took over, drying and further transporting these particles into the western Texas region.

The Llano Estacado Caprock Escarpment marks the eastern-most extent of the surficial sand deposits. Winds transporting particles into the area are thought to have collided with the escarpment, causing them to slow, dropping particles out of suspension, to where they have accumulated over time. Winnowing processes caused a further degree of particle sorting to occur. Due to the mechanisms and long distances of particle transport, sand grains were abraded and rounded as they reached their current locations.

These regional geologic processes resulted in the formation of the Kermit and Monahans dune fields, covering an area of approximately 5-10 miles wide, and 60 miles long, extending primarily through Ward and Winkler counties in west Texas.

4.2. Property Stratigraphy

4.2.1. General Stratigraphy

The present-day dune systems and sheet sands surrounding the Kermit and Monahans properties are largely vegetated, however the active dune fields on the subject mining properties contain no discernable overburden materials except for sparse areas of vegetation and roots that are removed during processing. The Kermit and Monahans deposits are mineable from the surface down, to the total defined depth defined by the drilling and sampling campaigns completed, which are further discussed in Chapter 5.

Quaternary unconsolidated dune deposits cover the entirety of the subject properties, generally ranging in thickness from 60-ft to over 100-ft, which is above average thicknesses seen in other surficial sand deposits of the area. A generalized stratigraphic chart of the geologic units in Ward and Winkler counties, Texas is presented in Figure 4.1.

System	Series	Geologic Unit
Quaternary	Pleistocene / Holocene	Sheet and Dune Sand
	Pleistocene	Unconsolidated Alluvium
Neogene	Pliocene	Ogallala Formation

Figure 4.1: Generalized Stratigraphic Chart, Surficial Deposits of Ward and Winkler Counties, TX

The following text discusses the strata encountered in and around Atlas's Kermit and Monahans properties, in depositional order:

Ogallala Formation

The Ogallala Formation is predominantly comprised of weakly cemented to unconsolidated fine-to medium-grained sands, which may be silty and calcareous in places. A caliche caprock is frequently exhibited, which resists weathering and forms ledges. Thickness of this formation has been recorded up to 550 ft.

Quaternary Sheet and Dune Sands

The Kermit and Monahans properties are uniformly covered by Quaternary dune and sheet sands generally consisting of fine-to medium-grained quartz sand grains mixed with varying degrees of silts, calcareous sands, and caliche nodules.

Surficial sand deposition may range in thickness from less than 10-ft of windblown sheet sands to over a hundred feet of dune sands. Unconsolidated alluvial deposits consisting of pebble-to cobble-sized limestone and chert nodules overlain by silts are found to the east of the properties.

Cross sections created from the geologic models of each property are presented in Figures 4.2 (Kermit) and 4.3 (Monahans), on the following pages, with locations of each cross section shown on Figures 3.1 and 3.2, respectively. A representative stratigraphic column from one drill hole completed within each of the subject properties is also presented in Figure 4.4 (page 4-6) for reference.

4.2.2. Structural Geology

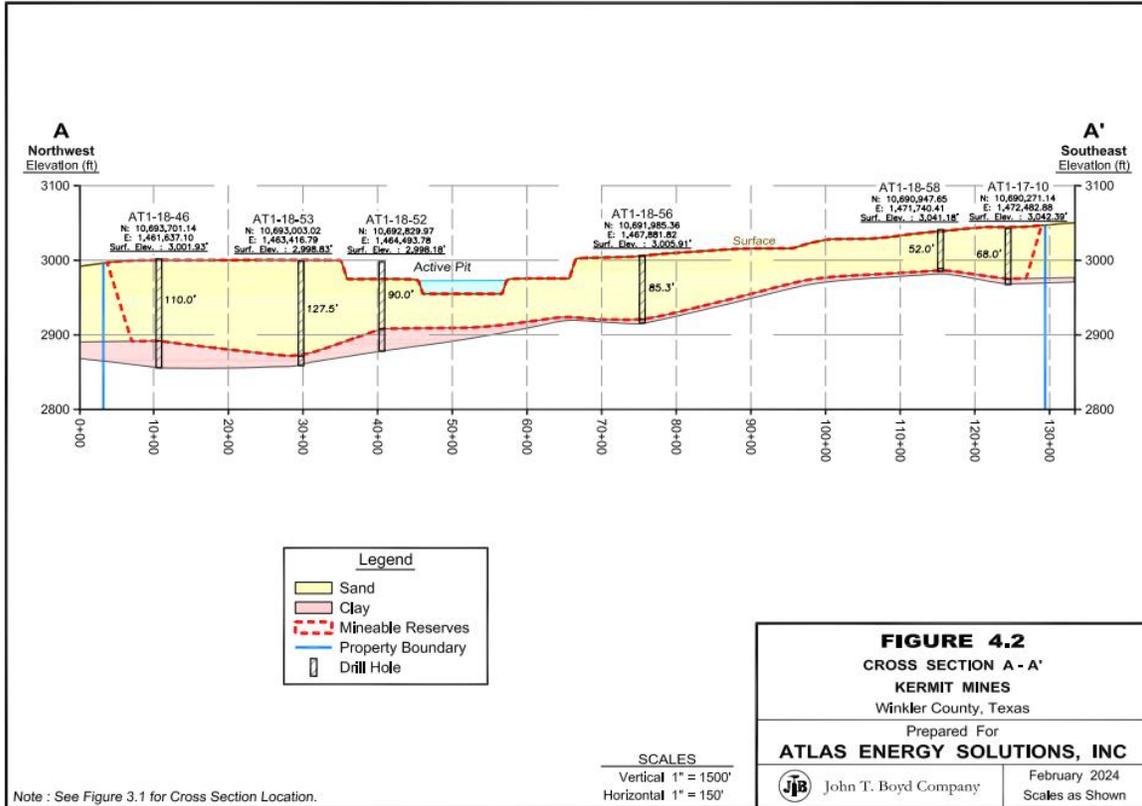
The structural features of the Quaternary sands in and around the Kermit and Monahans properties are relatively non-descript. While the mineable unit exhibits variable thickness over the area, it is unaffected by folding or faulting. Due to the lack of structural features encountered, there are no known geological features that are believed to materially affect frac sand mining operations in the immediate area; as such, the deposit is considered to be of low geologic complexity.

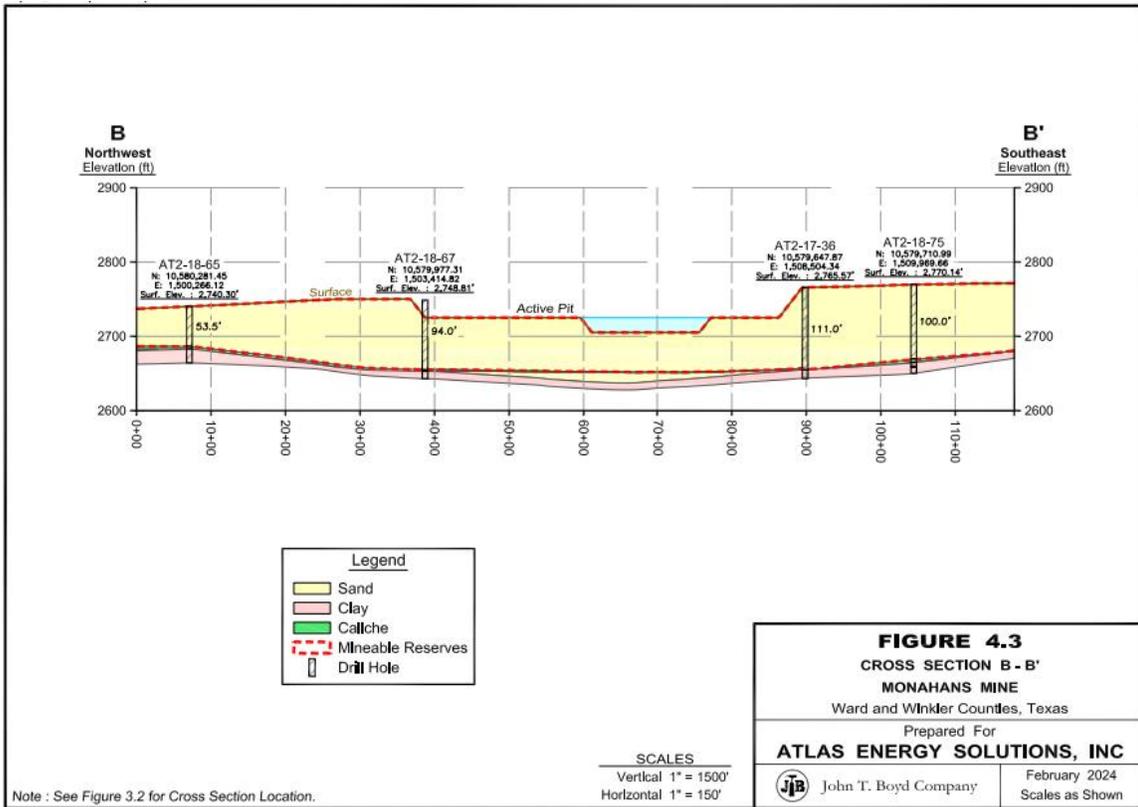
4.2.3.Frac Sand Geology

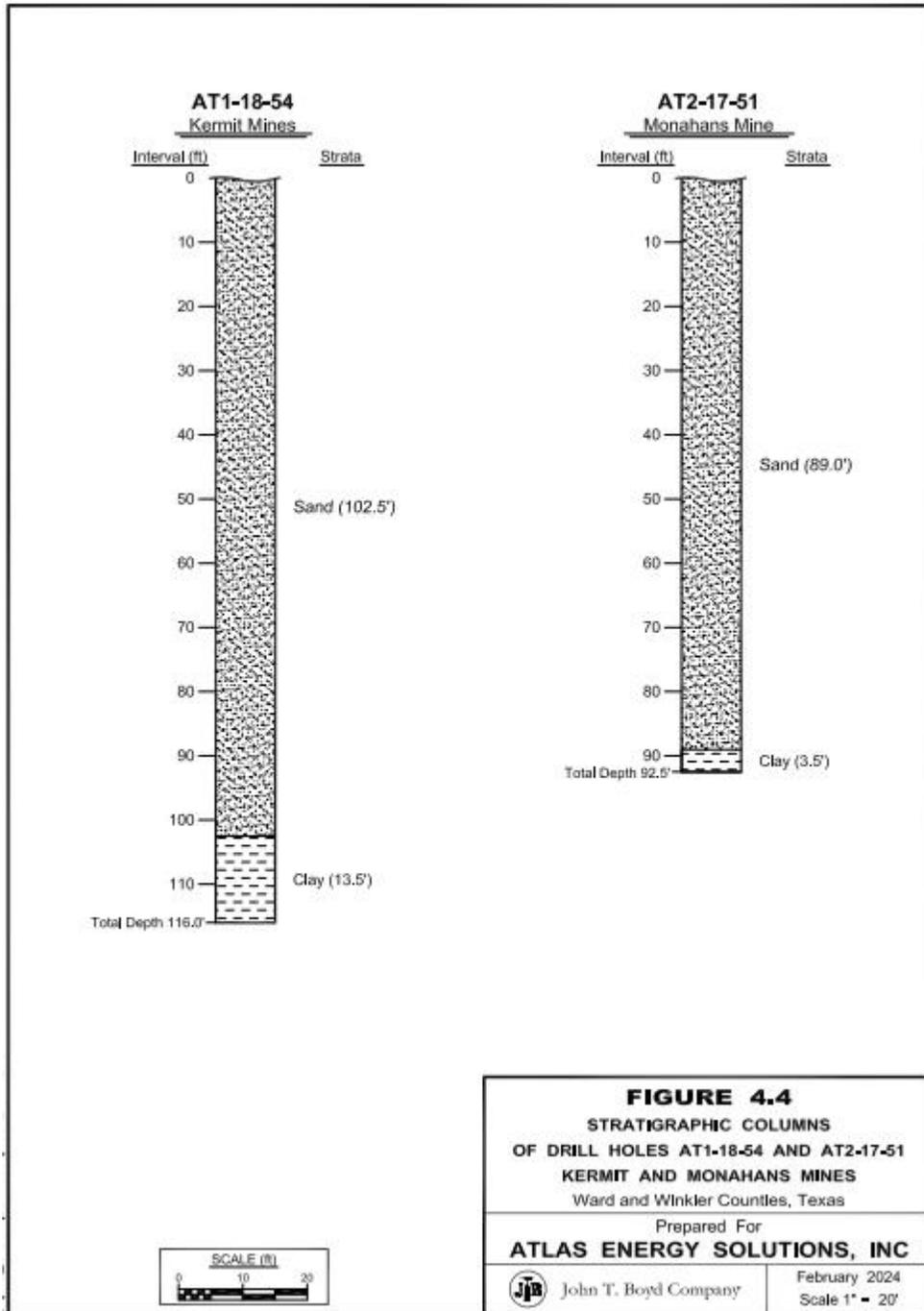
The sand mined at the Kermit and Monahans properties is processed into various frac sand products. Frac sand is a naturally occurring silica sand—also known as quartz sand or white sand—which generally exhibit the following characteristics required by oil and gas producers for use in developing wells:

- High-purity – frac sand grains are relatively pure (typically, >95% silicon dioxide) in composition and almost entirely free from contaminants. Typical sand deposits have numerous impurities fused to the silica grains, such as iron, carbonate, potassium, and other trace elements/minerals, which can make them more susceptible to mechanical and chemical alteration. Mineralogical purity of silica content is a characteristic of mature sand, which has been highly reworked and well sorted, so that the mechanically and chemically less-resistant minerals and fine particles have been dissolved or winnowed away.

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- Homogeneous grain size – hydraulic fracturing procedures require sand in a relatively narrow range of grain sizes which are dependent on the specific geological conditions of the well and the fracking procedures used. Larger sand grains generally provide better permeability, but smaller sand grains are typically stronger. When describing frac sand, the product is frequently referred to as simply the sieve cut, e.g. 20/40 mesh sand—meaning that 90 percent of the sand is fine enough to pass through a 20 mesh sieve and is coarse enough to be retained on a 40 mesh sieve. Common frac sand sizes include 20/40 mesh, 30/50 mesh, 40/70 mesh, “100 mesh”, “200 mesh”, and finer. The size ranges for “100 mesh” and “200 mesh” vary significantly between manufacturers. As of the date of this report, finer sands such as 40/70 mesh and “100 mesh” have become more widely utilized in shale gas well fracturing.

- High sphericity and roundness – Sphericity and roundness describe the overall shape of the sand grains. Sphericity measures how close the grains approach the shape of a sphere while roundness measures the relative sharpness of corners and curvatures of the grains. Greater sphericity and roundness provide better grain strength and porosity/permeability between grains, allowing better flow of oil and gas from the fractures to the wellhead. A more spherical shape also enables the grains to be carried in the fracking fluid with minimal turbulence.

- High crush resistance – Crush resistance of frac sand is dependent upon the hardness and shape of the sand grain. Generally, a high percentage of silica in the sand increases its crush resistance. Additionally, monocrystalline grains are stronger than composite grains. Crush resistance is expressed as a K-value that indicates the highest pressure (rounded to the nearest 1,000 psi) that generates less than 10 weight percent fines (i.e., crushed sand grains). For example, a K-value of 7 means that, at 7,000 psi pressure, no more than 10 weight percent fines were generated, but more than 10 weight percent fines were generated at the next highest pressure. The higher the K-value, the more crush-resistant the sand is.

- Low acid solubility – Acid solubility is an indication of the amount of soluble cement or soluble mineral grains (i.e., non-silica contaminants) in the frac sand; low solubility requires a high silica content, as pure quartz tends to be insoluble under normal conditions.

- Low turbidity – Turbidity is a measure of the clay, silt, or other fine grains and impurities in the sand. Low turbidity is a result of mineralogical maturity and grain-size sorting in the natural depositional environment. Generally, fine suspended matter in the mined sand is washed out during processing, so this property can be somewhat controlled for the final product.

Aeolian sand deposits, such as those found at the Kermit and Monahans mines, which are predominantly comprised of silica sand grains meeting the abovementioned characteristics are well-suited to the commercial production frac sands.

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5.0 EXPLORATION DATA

5.1. Background

Atlas has completed significant testing in order to thoroughly understand the frac sand deposits at their Kermit and Monahans properties. Throughout development of the subject properties, Atlas has completed numerous exploration campaigns and analyzed thousands of sand samples for various frac sand characteristics, including API/ISO standards.

Atlas engaged Westward in 2017 to design and conduct comprehensive initial exploration campaigns for both the Kermit and Monahans properties. These initial exploration campaigns were completed mid-late 2017 and resulted in a total of 36 completed drill holes on the Kermit Property, and 53 completed drill holes on the Monahans Property.

Infill exploration campaigns were then undertaken at each of the properties in early 2018, with the intent to increase the level of geologic confidence throughout select areas of each property. Westward again designed and completed these campaigns, which resulted in an additional 25 drill holes completed on the Kermit Property, and 27 additional drill holes completed on the Monahans Property.

Most recently, in 2021, a second infill drilling campaign was completed on the Kermit Property, which targeted areas of the sand deposit previously under-explored. The intent of this campaign was to increase the Kermit Property's total frac sand reserve base, as Atlas considered constructing a second mining and processing facility on the property. Drill hole locations for the 2021 campaign were proposed by BOYD, with drilling and sampling completed by Westward. By late September 2021, an additional 26 drill holes were completed on the Kermit Property.

As of the date of this report, a total of 87 drill holes have been drilled, sampled, and analyzed on the Kermit Property over the course of three separate exploration campaigns, and 80 drill holes have been drilled, sampled, and analyzed on the Monahans Property through two exploration campaigns. Results from these exploration campaigns consist of summary reports, geologic logs, subsurface samples, grain size analyses, and API/ISO proppant sand testing of composited samples.

Electronic copies of drilling and sampling logs and laboratory testing summaries were provided for our review and served as the basis of our independent geologic models. Exploration reports authored by Westward for each exploration campaign provided background information, such as equipment used, and sampling, logging, and fieldwork methodologies and procedures undertaken throughout each of the exploration campaigns completed on the Kermit and Monahans properties. BOYD opines that the information was obtained appropriately, and the work completed by Westward was thorough and complete for purposes of evaluating and estimating frac sand resources and frac sand reserves on the Kermit and Monahans properties.

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5.2.Exploration Procedures

5.2.1.Drilling, Sampling, and Sample Security

Westward employed various rotosonic drilling contractors to perform a series of exploratory drilling and sampling campaigns on the Kermit and Monahans properties, from June 2017 through September 2021. The two main goals of these campaigns were to: (1) define the lateral extent and thickness of the potentially mineable deposit, and (2) obtain samples through the total depth of mineable sand found on each property for the purpose of determining grain size distribution and proppant performance qualities.

Each of the drilling and sampling campaigns were executed in an equivalent manner, through the various phases of work completed on each property. Westward supervised the field work and geologically logged, photographed, and sampled each drill hole, as well as arranging sample storage and transport to the various testing laboratories. Drilling was conducted utilizing track-mounted rotosonic drilling rigs, which were selected not only to provide highest potential core recoveries in the loosely deposited dune and sheet sand formations found on the subject properties, but also because the loose surface material required track mounted vehicles to traverse most areas within the properties.

Each drill hole was completed by advancing the 6.25-inch outside diameter core barrel 10 ft at a time and recovering a 4.50-inch diameter core sample for each drilling run. Each recovered core was extruded into two 5-ft long sample bags, with the bottom depths of each core run written on the bags by the driller. After logging and photographing an interval, cores were then sampled, generally on 5-ft or 10-ft increments by gathering material along the entire length of the core with a hand trowel, in order to obtain a representative sample of the entire length of core. This process was repeated from the surface through the total depth of sand drilled, in every drill hole completed on the subject properties. Sample material was placed into burlap sample bags as it was gathered from the drill core, and each bag was labeled with the drill hole name and the top and bottom sample depth. This process was completed a second time to create a duplicate sample set of each interval drilled.

Westward geologists and geological technicians determined the terminus of the sampling interval of a drill hole when the amount of sand in a recovered interval was neither the first nor second most abundant material present.

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Drilling samples were kept on-site in a secure location until the laboratory set was shipped to the respective labs, at which time Atlas obtained the duplicate set of samples for archival purposes.



Figure 5.1: Drill Hole Sand Sample

5.2.1.1 Initial Drilling and Sampling Campaigns

The initial drilling and sampling campaigns were conducted in 2017. The completed drill holes were spaced approximately 3,000 ft to 4,500 ft apart (one hole drilled per section of controlled property). These exploration campaigns were aimed at determining the depth and lateral extent of the sand deposits across the Kermit and Monahans properties. Drilling and sampling results for each property were reviewed, and potential locations to commence mining operations were identified.

Westward retained Boart Longyear to drill the Kermit and Monahans properties, resulting in 36 holes drilled and sampled on the Kermit Property from June to July 2017, and 53 holes drilled and sampled on the Monahans Property from June to August 2017.

5.2.1.2 Infill Drilling and Sampling Campaigns

Once the initial drilling and sampling campaigns were completed and the associated lab testing results were reviewed, Atlas again retained Westward to design and complete an infill drilling campaign within the designated initial mining areas of each property. The goal of the 2018 infill drilling campaigns was to support the estimation of frac sand reserves within the designated initial mining areas of each property.

Westward supervised the drilling activities and performed geological logging and sampling. To expedite the infill drilling and sampling campaigns, two drilling companies were used, both utilizing similar track mounted roto-sonic drilling rigs. Boart Longyear performed drilling work on the Kermit Property, and Yellow Jacket Drilling performed drilling work on the Monahans Property.

Both infill drilling campaigns were completed in 2018, resulting in an additional 25 holes being drilled and sampled on the Kermit Property, and 27 holes being drilled and sampled on the Monahans Property. As a result of the infill drilling program, the designated initial mining areas of each property were now drilled to a nominal 1,500-ft spacing.

5.2.1.3 Expansion Drilling and Sampling Campaign

As part of their planning for the Kermit Property, Atlas retained BOYD to locate additional drill holes throughout select areas of the property in 2021. The purpose of this campaign was to complete enough drilling and testing to allow Atlas to increase the frac sand reserve base of the Kermit Property, as Atlas considered constructing a second mining and processing facility.

BOYD located additional drill holes in areas of the Kermit Property beyond the initial reserve areas, in order to decrease the overall drill hole spacing throughout additional portions of the Kermit Property. Westward again managed and conducted the field work portion of this campaign, contracting Boart Longyear to provide roto sonic drilling services. In total, 26 drill holes were completed by September 2021 during this exploration campaign, which ultimately increased the frac sand resource/reserve area by approximately 3.5 sections of land (over 2,200 acres).

Table 5.1 below presents a summary of the number of drill holes completed during each exploration campaign, on each of the properties.

Table 5.1: Kermit and Manahans Drilling Campaign Summary

	Rotosonic Drill Holes Completed By Driling Campaign			Total
	2017	2018	2021	
Kermit Property	36	25	26	87
Monahans Property	53	27	-	80
Total	89	52	26	167

Please refer to Figures 3.1 and 3.2 (pages 3-3 and 3-4), for the locations of completed drill holes on the Kermit and Monahans properties, respectively.

5.2.2.Frac Sand Testing

Samples obtained from the exploration campaigns on the Kermit and Monahans properties were sent to designated laboratories, each performing different analyses to evaluate the frac sand characteristics of the subject deposits.

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Sample preparation and testing was generally completed in the same manner for each property and each drilling campaign. After samples were delivered to their respective testing laboratory, they were catalogued and then prepared for analysis. Sample preparation generally consisted of thoroughly mixing the obtained sample material and gathering a subsample large enough to perform the required analyses. The general procedure for sample analyses was as follows:

1. Prepared samples material was dried to remove moisture.
2. A 600- to 1,200-gram subsample was collected, and the initial sample weight was recorded.
3. The weighed subsample was agitated to disaggregate the material as much as possible, and then washed over a 200 mesh screen to remove fine materials (e.g., clay and silt).
4. Remaining material (larger than the 200 mesh screen size) is then dried and weighed to determine the mass of fine material that was washed out (i.e., wash loss).
5. The remaining dried subsample is split through a riffle splitter to create multiple washed samples that may be utilized for additional analyses.
6. A portion of the split sample is then either placed into a sieve stack and agitated for 20 minutes or run through a high-speed photographic particle size analyzer (i.e., CAMSIZER) to determine the particle size distribution of the subsample.

The initial drilling and sampling campaigns utilized PropTester, Inc. (PropTester), Cypress, Texas, to perform sample preparation and sieve (gradation) analyses on samples from both the Kermit and Monahans properties.

The infill drilling and sampling campaign lab testing was split up between different labs, to expedite analyses of drilling samples:

- The Kermit Property infill exploration campaign sample preparation and sieve (gradation) analyses were performed by both PropTester and FracTAL LLC (FracTAL), St. Paul, Minnesota; PropTester also created composite samples and performed crush tests and API/ISO testing.
- The Monahans property infill exploration campaign sample preparation and sieve (gradation) analyses were performed by Lonquist Engineering LLC (Lonquist), College Station, Texas, while PropTester again prepared composite samples and performed the crush tests and the API/ISO testing.

5.2.3 Other Exploration Methods

To our knowledge, no other methods of exploration (such as airborne or ground geophysical surveys) were completed on either the Kermit or the Monahans properties.

5.3.Laboratory Testing Results

The relatively uniform and clean nature of the sampled dune deposits underlying the Kermit and Monahans properties, combined with laboratory testing results, indicated that the subject properties would yield a variety of frac sand products – typically in the 40/140 mesh size fraction – that meet various customer specifications for in-basin frac sand applications within the Permian basin.

5.3.1 Frac Sand Testing Overview

5.3.1.1 Grain Size Distribution

Grain size distribution was analyzed according to API/ISO, Section 6. The weighted average grain size distribution, based on laboratory testing results, as contained within the in-place sand resources for each property is presented in Table 5.2 below.

Table 5.2: Particle Size Distribution

	In-Place % Retained, By Mesh Size				% Product	
	+40	40/70	70/140	-140	40/70	70/140
Kermit Property	1.6	46.6	37.1	14.7	54.9	45.1
Monahans Property	2.9	54.4	34.4	8.3	61.2	38.8

The grain size distribution data highlights the relative fineness of the sand found within Atlas's properties and indicates that a majority of the sand particles are concentrated between the passing 40 mesh and retained 140 mesh size fraction. Accordingly, the predominant marketable product from the Kermit and Monahans mines consists of the 40/140 mesh size sands. Refer to Figures 5.2 and 5.3 for percent of in-place frac sand material isopleths, 40/70 mesh and 70/140 mesh respectively, for the Kermit Mines, and Figures 5.4 and 5.5 for percent of in-place frac sand material isopleths, 40/70 mesh and 70/140 mesh respectively, for the Monahans Mine.

5.3.1.2 Grain Shape (Sphericity and Roundness)

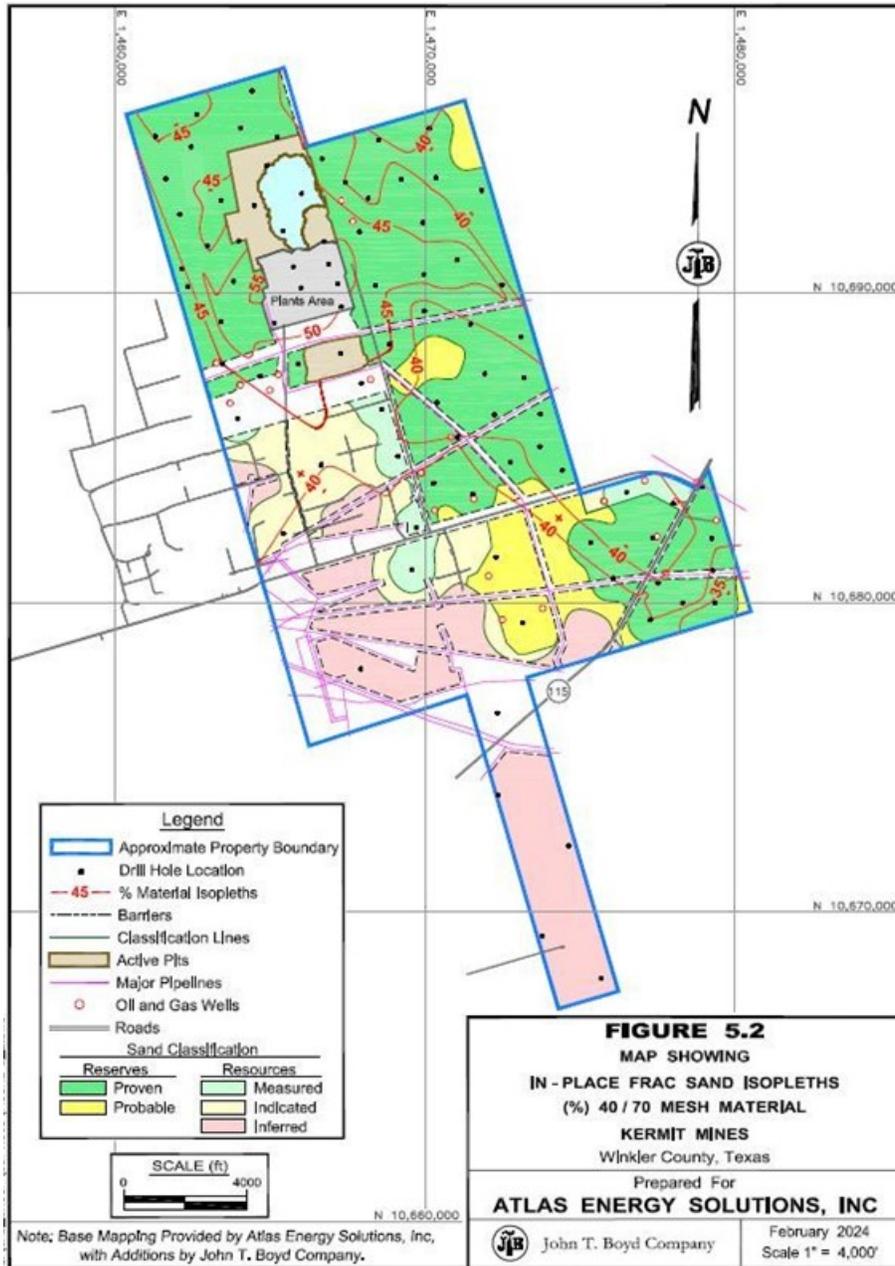
Grain shape was analyzed according to API/ISO, Section 7. Under this standard, recommended sphericity and roundness values for proppants are 0.6 or greater. As part of the grain shape analysis, the presence of grain clusters (weakly cemented grain aggregates) and their approximate proportion in the sample were reported.

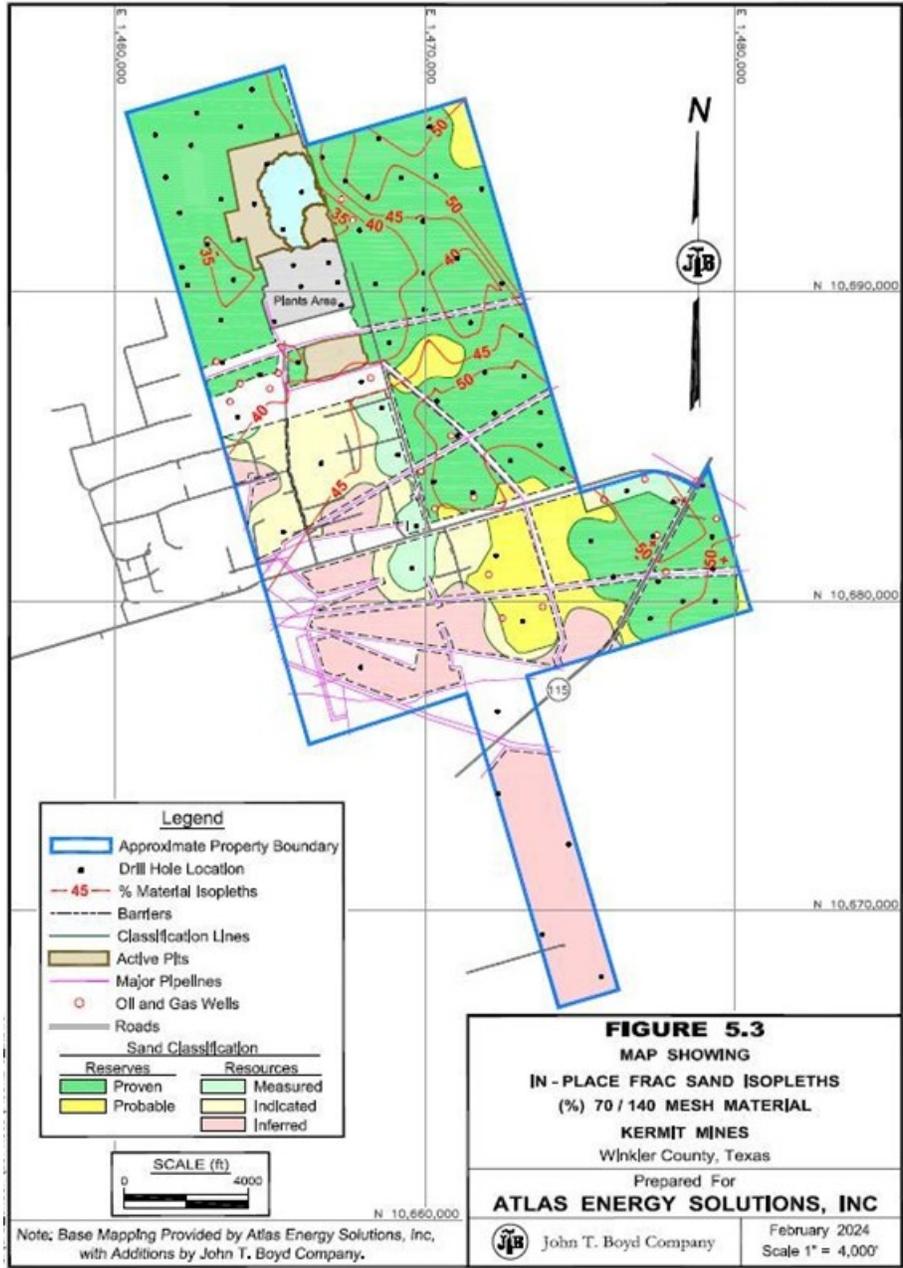
5.3.1.3 Crush Resistance

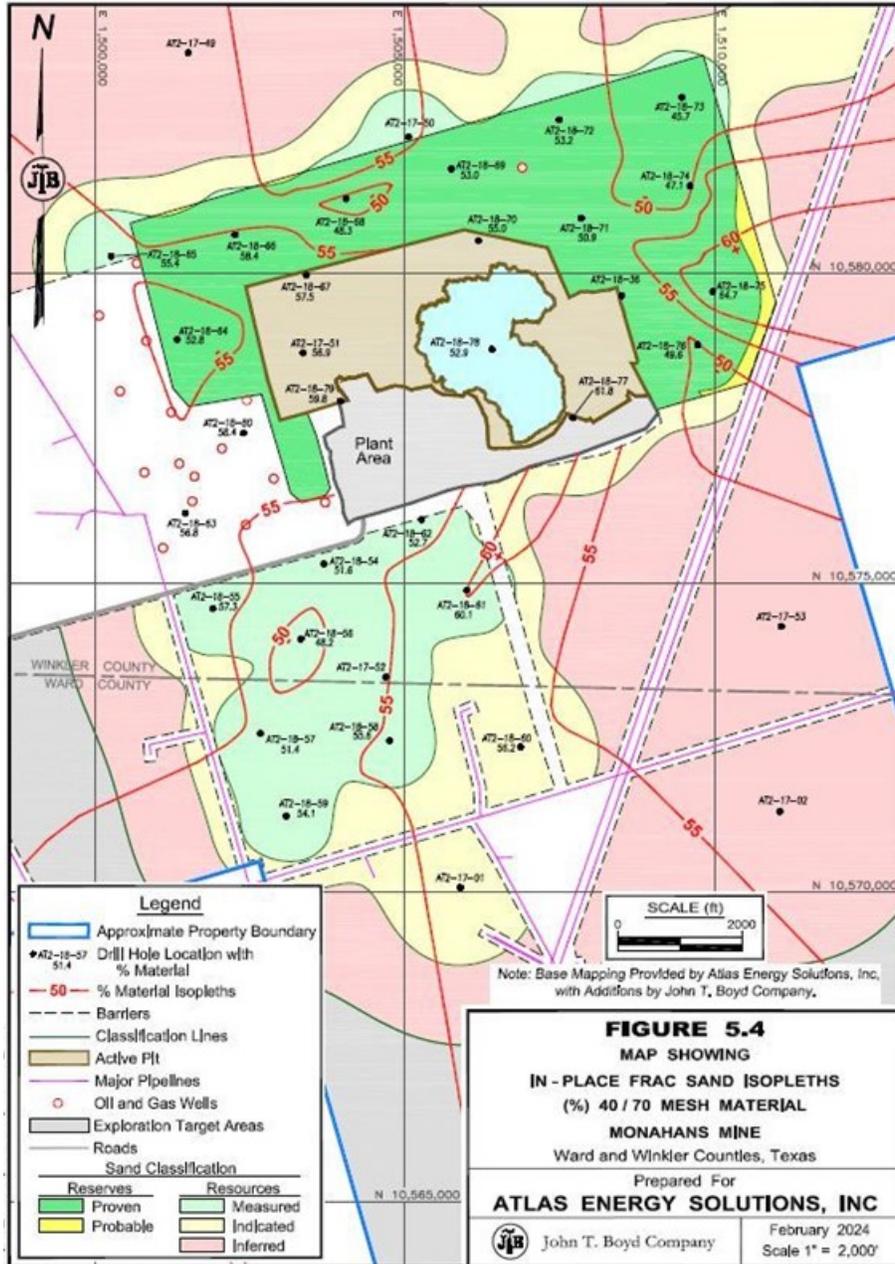
Crush resistance is a key test that determines the amount of pressure a sand grain can withstand under laboratory conditions for a two-minute duration. It is analyzed according to API/ISO, Section 11. Under this standard, the highest stress level (psi) in which the proppant produces no more than 10% crushed fine material is rounded down to the nearest 1,000 psi and reported as the "K-value" of the material.

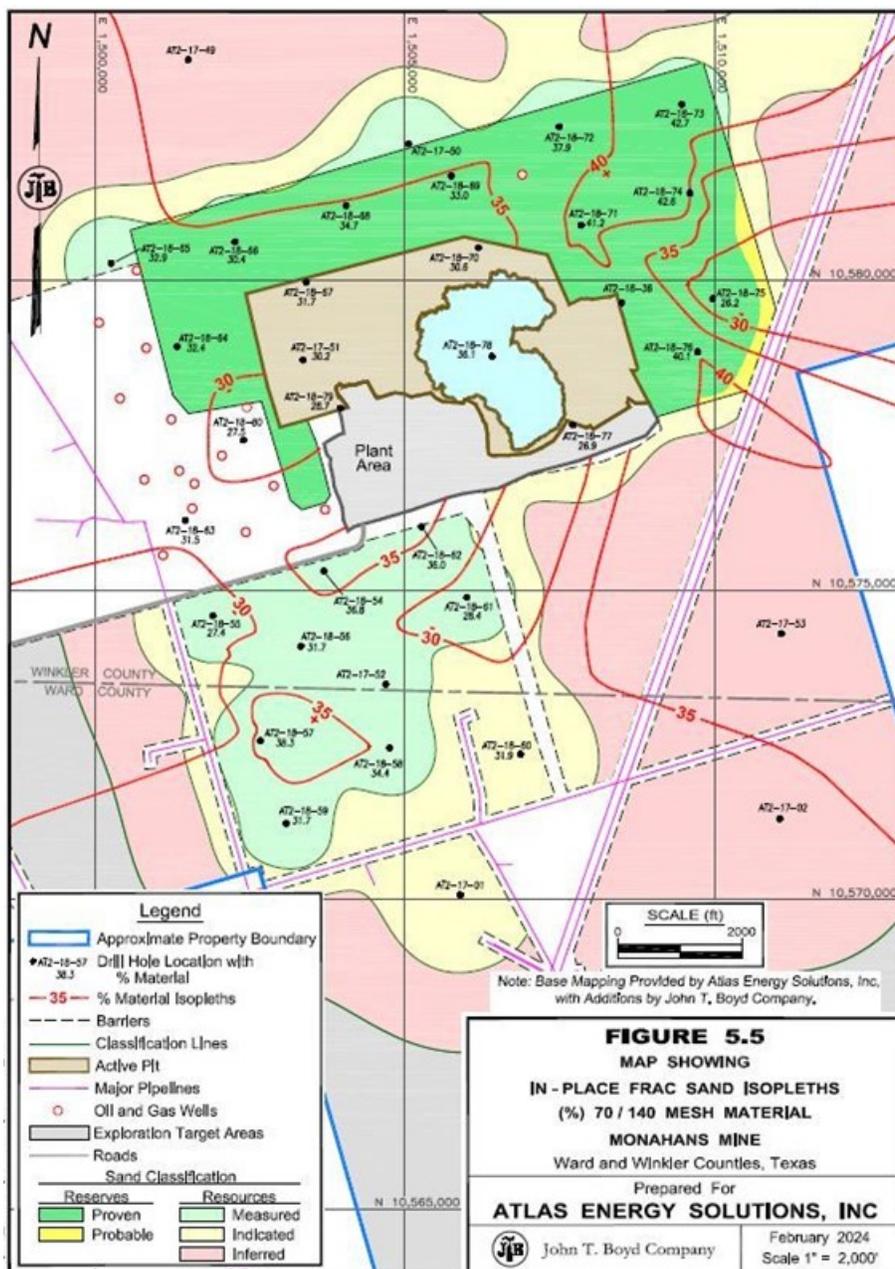
5.3.1.4 Acid Solubility

Acid solubility was analyzed according to API/ISO, Section 8. Under this standard, 5 grams of proppant is treated with 100 ml of 12:3 HCl: HF at 150° F for 30 minutes. The recommended maximum acid solubility for proppants in the 40/70 size range and finer is 3.0%.









5.3.1.5 Turbidity

Turbidity was analyzed according to API/ISO, Section 9. Under this standard, the suggested maximum frac sand turbidity should be equal to or less than 250 nephelometric turbidity units (NTU).

5.3.2 Quality Summary

As general customer specifications tend to adapt to the local sand characteristics, API/ISO testing for locally sourced frac sands has become less relevant over the past several years. However, it is still of value to be able to demonstrate that the frac sand produced at a mine meets specifications for certain well applications.

PropTester and Lonquist performed API/ISO tests on composite samples created from sample material collected during the exploration campaigns completed on the Kermit and Monahans properties. The purpose of this testing was to obtain an indication of the “overall quality” characteristics of the mineable sand materials contained on the subject properties. Three drill holes located within the infill drilling areas of each property were selected to create composite samples, which consisted of samples from the entire depth drilled from each hole selected. The testing labs then created a 40/70 mesh and 40/140 mesh product cut from each drill hole composite, which were analyzed for the full suite of API/ISO proppant sand characteristics.

Atlas also performed additional crush testing to check for variability in grain strength throughout the total depth of the mineable sand interval. These additional crush tests were conducted on every 10-ft sample interval from two additional drill holes on each property. Overall, this extensive testing indicated a relatively uniform range of crush values through the entire depth of the deposit, with the exception of one or two intervals where a caliche interval was not completely removed before performing the crush tests. Results from the intervals containing caliche were about 1,000 psi less than all other intervals tested, and as such were not included in the summary quality data.

Combining the extensive crush testing conducted with the API/ISO testing performed on the composite samples, Atlas has completed a comprehensive review of grain characteristics for each of the reserve areas within the subject properties. The data indicate little variability within the overall mineable deposit of each property.

BOYD opines that the methodologies utilized during exploration, sampling, handling, security, preparation, and testing generally meet standard industry practice and present an unbiased overview of the deposits contained in the subject properties.

Sample testing results are summarized in Table 5.3 below for each product size analyzed within each property:

Table 5.3: Proppant Characteristic Test Results for Kermit and Monahans Mines

Test	Average API/ISO Test Results By Product Size and Mine			40/140 mesh ⁽¹⁾⁽²⁾	
	40/70 mesh		Recommended Specification	Kermit	Monahans
	Kermit	Monahans			Kermit
Sphericity	0.7	0.7	≥0.6	0.7	0.7
Roundness	0.8	0.7	≥0.6	0.7	0.7
Acid Solubility (%)	1.1	0.9	≤3.0	2.6	1.6
Turbidity (NTU)	15.0	7.0	≤250	15.0	13.0
K-Value (000 psi)	7 - 8	7 - 8	-	10 - 11	10 - 11

(1)100 mesh propane and material currently does not have an API/ISO specification.

(2)Test results were for a single 40/140 mesh product.

The composite testing results suggest the Kermit and Monahans mines can produce frac sands that meet minimum API/ISO recommended specifications. Moreover, Atlas has demonstrated commercial success producing and selling frac sand to Permian Basin oil and gas producers, where ultimately the sand has been shown to meet customer specifications.

5.4 Data Verification

For purposes of this report, BOYD did not verify historic drill hole data by conducting independent drilling in areas already explored. It is customary in preparing frac sand resource and frac sand reserve estimates to accept basic drilling and quality testing data as provided by the client, subject to the reported results being judged representative and reasonable.

BOYD's efforts to judge appropriateness and reasonability of the source exploration data included reviewing provided drilling logs, sampling procedures, sand quality testing results, and discussing related aspects of the Kermit and Monahans deposits and processing operations with Atlas personnel during our site visit.

5.5 Adequacy of Exploration and Sampling Data

BOYD's review of the reported procedures indicate the exploration and sampling data obtained for the Kermit and Monahans mines were: (1) carefully and professionally collected, prepared, and documented in conformance with general industry standards, and (2) are appropriate for use of evaluating and estimating frac sand resources and frac sand reserves. Similarly, BOYD's review of testing data provided by Atlas suggests that the analyses completed are generally appropriate to determine frac sand characteristics and determine the subsequent quality of finished frac sand products. As such, it is BOYD's opinion that the sampling data are also suitable for use in the estimation of frac sand resources and frac sand reserves for the Kermit and Monahans mines.

6.0 FRAC SAND RESOURCES AND RESERVES

6.1. Applicable Standards and Definitions

Unless otherwise stated, frac sand resource and frac sand reserve estimates disclosed herein are completed in accordance with the standards and definitions provided by S-K 1300. It should be noted that BOYD considers the terms “mineral” and “frac sand” to be generally interchangeable within the relevant sections of S-K 1300.

Estimates of any mineral resources and reserves are always subject to a degree of uncertainty. The level of confidence that can be applied to a particular estimate is a function of, among other things: the amount, quality, and completeness of exploration data; the geological complexity of the deposit; and economic, legal, social, and environmental factors associated with mining the resource/reserve. By assignment, BOYD used the definitions provided in S-K 1300 to describe the degree of uncertainty associated with the estimates reported herein.

The definition of mineral (frac sand) resource provided by S-K 1300 is:

Mineral resource is a concentration or occurrence of material of economic interest in or on the Earth's crust in such form, grade or quality, and quantity that there are reasonable prospects for economic extraction. A mineral resource is a reasonable estimate of mineralization, taking into account relevant factors such as cut-off grade, likely mining dimensions, location or continuity, that, with the assumed and justifiable technical and economic conditions, is likely to, in whole or in part, become economically extractable. It is not merely an inventory of all mineralization drilled or sampled.

Estimates of frac sand resources are subdivided to reflect different levels of geological confidence into measured (highest geologic assurance), indicated, and inferred (lowest geologic assurance). Please refer to the Glossary of Abbreviations and Definitions for the meanings ascribed to these terms.

The definition of mineral (frac sand) reserve provided by S-K 1300 is:

Mineral reserve is an estimate of tonnage and grade or quality of indicated and measured mineral resources that, in the opinion of the qualified person, can be the basis of an economically viable project. More specifically, it is the economically mineable part of a measured or indicated mineral resource, which includes diluting materials and allowances for losses that may occur when the material is mined or extracted.

Estimates of frac sand reserves are subdivided to reflect geologic confidence, and potential uncertainties in the modifying factors, into proven (highest assurance) and probable. Please refer to the Glossary of Abbreviations and Definitions for the meanings ascribed to these terms.

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Figure 6.1 shows the relationship between frac sand resources and frac sand reserves.

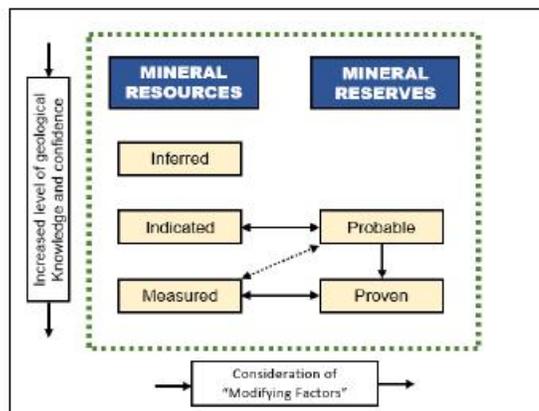


Figure 6.1: Relationship Between Frac Sand Resources and Frac Sand Reserves

In this report, the term “frac sand reserves” represents the tonnage of frac sand products that meets customer specifications and will be available for sale after processing of the ROM sand.

6.2. Frac Sand Resources

6.2.1. Methodology

BOYD independently prepared estimates of in-place frac sand resources for each of the Kermit and Monahans mines by performing the following tasks:

1. Available drilling logs and laboratory testing results were compiled and reviewed to check for accuracy and to support development of each operation’s geologic model. The geologic databases utilized for modeling and estimation consist of results from 87 drill holes completed on the Kermit Property, and 80 drill holes completed on the Monahans Property, as is discussed in Chapter 5. The geologic data were imported into Carlson Software, a geologic modeling and mine planning software suite that is widely used and accepted by the mining industry.

2. A geologic model of each deposit was created in Carlson Software using industry-standard grid modeling methods well-suited for simple stratigraphic deposits. Each geologic model delineates the top and bottom of the mineable sand horizon and the distribution of the product size fractions across the deposits. The top and bottom of the mineable frac sand interval were established as follow:

a. As there is minimal overburden material across the subject properties, the top of the mineable sand interval was defined as the current ground surface, as provided by a combination of originally flown aerial topographic surveys and recently surveyed active mining pits.

b. The bottom of the mineable sand interval on both Atlas properties was determined by Westward geologists and geological technicians present during the various exploration and sampling campaigns. Westward defined the bottom of the mineable sand interval as the depth at which a drilled interval no longer contained sand as either the first or second most abundant material present.

Overall mineable frac sand thicknesses based on the defined top and bottom noted above, are presented in Figures 6.2 and 6.3, for the Kermit and Monahans properties, respectively.

3. After reviewing the continuity and variability of the deposit, suitable resource classification criteria were developed and applied as per the discussion in Section 6.2.2.

4. Estimation of the in-place frac sand resources for the Kermit and Monahans properties assumes mining operations will utilize a combination of standard surface excavation equipment for the near-surface initial operations (dry mining) and dredging equipment once initial excavation has reached into the water table. This sequence of operating is widely utilized for mining of similar deposit types. As such, the estimates were subject to the following setbacks and slope requirements:

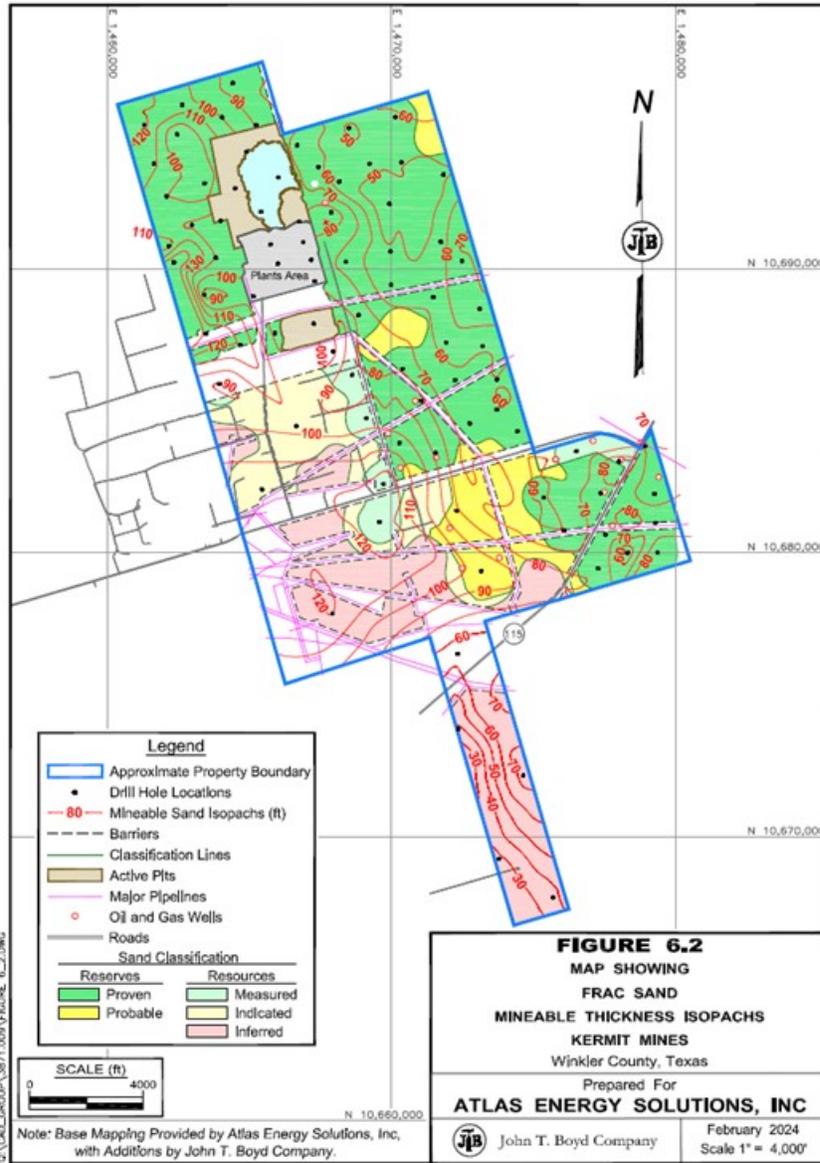
a. 50 ft inside of property lines.

b. 100 ft from pipelines.

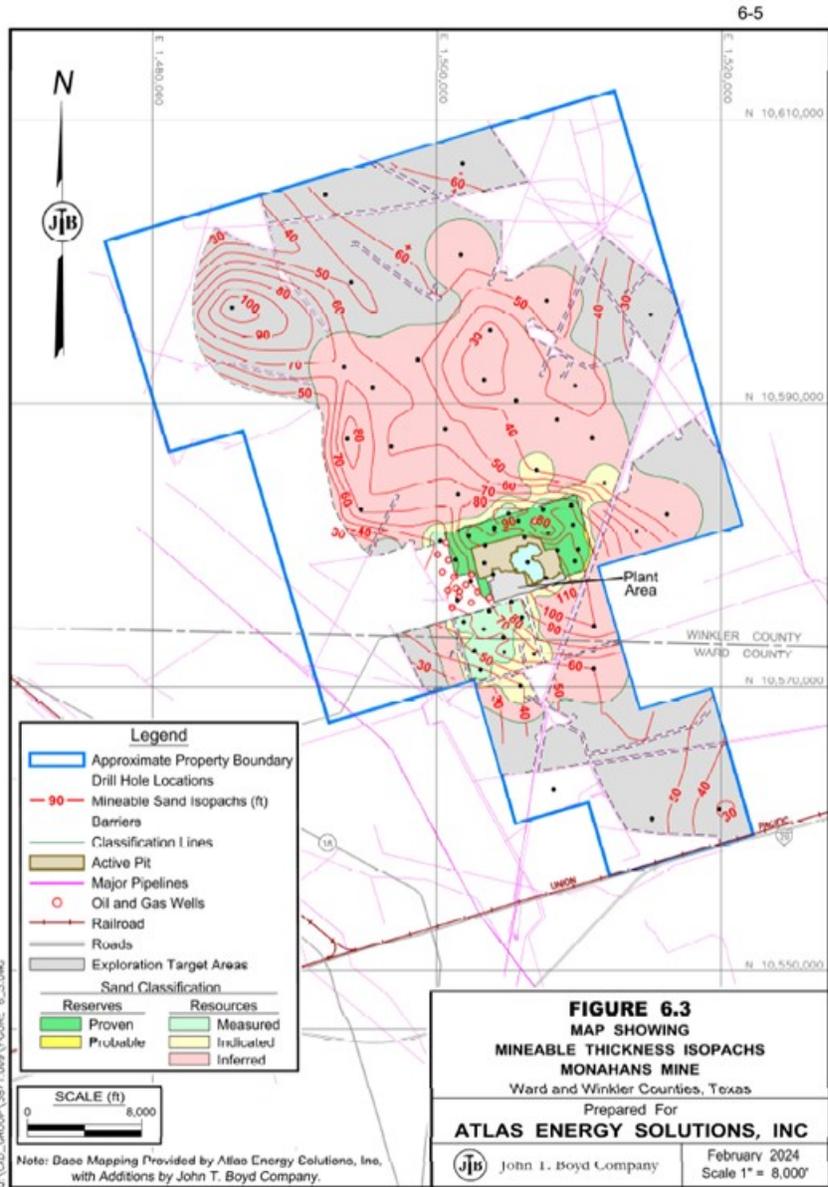
c. 50 ft around the wet and dry process plant areas and main access road/right of way.

d. An overall pit wall slope of 3:1 (approximately 19 degrees).

5. In-place volumes for each property were estimated from the geologic model within Carlson Software. A dry, in-place, bulk density of 100 pounds per cubic foot was used to calculate the in-place tonnage of frac sand.



D:\CAD_group\1871_009\FIGURE 6.2.DWG



6. BOYD utilized a combination of the provided updated mining pit survey information and reported monthly production data for each of Atlas's subject properties in order to adjust the estimate of in-place frac sand resources as of December 31, 2023.

6.2.2. Classification

Geologic assuredness is established by the availability of both structural (thickness and elevation) and quality (size fraction) information for the deposit. Resource classification is generally based on the concentration or spacing of exploration data which can be used to demonstrate the geologic continuity of the deposit. When material variations in thickness, depth, and/or sand quality occur between drill holes, the allowable spacing distance between drill holes is reduced. The following drill hole spacing criteria were established by the Qualified Person after review of the available exploration data and geologic models and used to classify the frac sand resources of the Kermit and Monahans mines:

Table 6.1: Kermit and Monahans Frac Sand Resource Classification Criteria

Classification	Spacing Requirement (ft) (Nominal Maximum)
Measured	1,500
Indicated	2,500
Inferred	5,000

Extrapolation or projection of resources in any category beyond any data point does not exceed half the point spacing distance.

The surficial sand deposits on Atlas's Kermit and Monahans properties are of low geologic complexity. Since sufficient drilling and sampling has been performed within the remaining mineable portions of the subject properties, BOYD is of the opinion that there is a low degree of uncertainty associated with the estimates of frac sand resources provided herein.

6.2.3. Estimation Criteria

Development of the frac sand resource estimates for the Kermit and Monahans properties assumes mining and processing methods and equipment which have been utilized successfully at the operation for several years.

The target mining horizons at both operations are manifested as continuous, low rolling sand dunes with relatively consistent depth, thickness, and quality. There is no discernable overburden, and the high-quality sand is easily distinguished from the underlying waste unit; as such, interpretation of the mineable horizon is relatively easy. Generally, the entire sand interval, from the surface to the total depths drilled, is mined and processed Atlas's Kermit and Monahans operations. The mined sand is processed to remove out-sized material (i.e., sand which is either too coarse or silts/clays which are too fine to be sold) and produce saleable

finished products. The amount of finished sand produced as a percentage of the raw sand mined is referred to as the processing yield (or plant yield), which is analogous to the “cut-off grade” of other mining operations. If the expected processing yield of the sand is too low, the costs of production will outweigh sales revenues and the deposit cannot be economically mined. The minimum economic processing yields are approximately 30% at the Kermit Mines and 39% at the Monahans Mine, based on 3-year historic financial results provided from each operation; however, this is well below the expected processing yields of these deposits. Other limiting criteria, such as minimum mining thicknesses or maximum stripping ratios (the ratio of waste to sand excavated) are generally not considered in the estimation of frac sand resources for the Kermit and Monahans mines.

The limits of the frac sand resources are constrained to those portions of the interpreted sand deposit that:

- Are reasonably defined by available drilling and sampling data.
- Contain products that meet generally accepted specifications and can be sold at a profit (i.e., be economic).
- Honor any legal mining constraints (e.g., property boundaries, environmental setbacks, utility and infrastructure setbacks, etc.).
- Adhere to physical mining limitations.

Frac sand resources for the subject properties are assessed for reasonable prospects for eventual economic extraction by reporting: (1) those resources which have been subsequently converted to proppant sand reserves after the application of all material modifying factors, and/or (2) those resources which have similar characteristics (i.e., mining conditions, and expected processing yields and qualities) to those converted to frac sand reserves.

The criteria employed in developing the estimates of frac sand resources for the Kermit and Monahans mines are supported by historical results and align with those employed at similar operations. As such, it is BOYD’s opinion that the stated criteria are reasonable and appropriate for the estimation of frac sand resources at the Kermit and Monahans mines.

6.2.4.Frac Sand Exploration Results Areas

There are significant portions of the Monahans Property in which some exploration has been performed (i.e. holes drilled) but for which the distance between drill holes falls outside of the classification criteria noted in Section 6.2.2. These “Exploration Results Areas” are confined to the outer-most portions of the Monahans Property. No Exploration Results Areas are located on the Kermit Property.

Exploration Results Areas have less geologic confidence than Inferred Resources and are not quantifiable or reportable under the S-K 1300 guidelines. The intent of disclosing the acreage in Table 6.2, below, is generally to let the reader know that even beyond the extensive quantity of reportable frac sand resources and reserves, it is likely that additional exploration will confirm the existence of frac sand resources beyond those identified

as of the effective date of this report. Exploration results from these portions of the deposit exhibit similar characteristics, both in thickness and frac sand quality to that of the reported frac sand resources and frac sand reserves. The following table presents a summary of characteristics of the Monahans Property Exploration Results Areas, based on drilling and sampling data completed to date.

Table 6.2: Exploration Results Area Deposit Characteristics, Monahans Property

Property	Acres	Total Drill Hole Count	Sand Thickness (ft)		
			Min	Max	Average
Monahans	9,575	8	13	115	58

6.2.5. Frac Sand Resource Estimates

Significant amounts of reportable frac sand resources, in addition to those converted to frac sand reserves within each property's mine plan area, exist for both the Kermit and Monahans properties. These quantities of frac sand resources fall within the defined boundaries of the Kermit and Monahans properties and are not reported as frac sand reserves, however they are considered to be potentially material to each operation. Reportable resources must have demonstrated geoscientific information based on varying levels of drilling, sampling, and laboratory testing results. The quantities of frac sand resources (in addition to the reported frac sand reserves) available at the Kermit and Monahans mines are presented in the following table.

Table 6.3: In-Place Frac Sand Resources as of December 31, 2023

Resource Category	Acres	Average Sand Thick (ft)	Estimated In-Place Frac Sand Tons (000)		
			Owned	Leased	Total
Kermit Mines					
Measured	165		2,750	16,636	19,386
Indicated	460		563	75,515	76,078
Inferred	800		-	75,076	75,076
Total	1,425	74	3,313	167,227	170,540
Monahans Mine					
Measured	487		-	71,730	71,730
Indicated	785		-	102,755	102,755
Inferred	8,908		-	1,094,030	1,094,030
Total	10,180	57	-	1,268,515	1,268,515

6.2.6. Validation

BOYD independently estimated in-place frac sand resources for the Kermit and Monahans operations based on the provided drilling, sampling, and testing data provided by Atlas. We have reviewed this information, on a representative basis, by confirming the accuracy of geologic model inputs by comparison with drilling logs and laboratory reports. Utilizing industry-standard grid modeling techniques we have estimated volumes of frac sand present on each property, as indicated by such data. Based on our review of Atlas's well-documented geologic exploration and sampling methods, we are of the opinion that the data provided are reasonable and appropriate, and our independent geologic model is representative of the informing data and that the data are of sufficient quality to support the estimates of frac sand resources provided herein. Furthermore, it is our

opinion that the estimation methods and criteria employed are both appropriate and reasonable for the deposit type and proposed extraction methods.

6.3.Frac Sand Reserves

6.3.1.Methodology

Estimates of frac sand reserves for the Kermit and Monahans mines were derived contemporaneously with the estimates of frac sand resources for each property. To derive an estimate of saleable product tons (proven and probable frac sand reserves), the following modifying factors were applied to the in-place measured and indicated frac sand resources underlying the respective mine plan areas of each operation:

- A 95% mining recovery factor which assumes that 5% of the mineable (in-place) frac sand resource will not be recovered for various reasons. Applying this recovery factor to the in-place resource results in the estimated ROM sand tonnage that will be delivered to the wet process plants.
- Processing recoveries, based on exploration sample gradation testing, are 85% for the Kermit Mines, and 88% for the Monahans Mine. These recovery factors account for removal of out-sized (i.e., larger than 40 mesh and smaller than 140 mesh) sand and losses in the wet processing plants, and minor dry processing plant inefficiencies.

The overall product yields (after considering both the mining and processing losses discussed above) for the Kermit and Monahans operations are estimated at 81% and 83%, respectively. That is, for every 100 tons of in-place frac sand resources available at each operation, approximately 81 tons will be recovered and sold as product from the Kermit Mines, and approximately 83 tons will be recovered and sold as product from the Monahans Mine.

BOYD estimated reserves on the subject properties utilizing current mining pit extents and depths as of early December 2023, together with adjusted December 2023 actual production data, in order to arrive at an estimate of frac sand reserves for the Kermit and Monahans operations, as of December 31, 2023.

6.3.2.Classification

Proven and probable frac sand reserves are derived from estimated measured and indicated frac sand resources, respectively, which have a life-of-mine projected mine plan developed in accordance with S-K 1300. BOYD is satisfied that the frac sand reserve classifications reflect the outcome of technical and economic studies. Figures 6.2 and 6.3 also illustrate the reserve classifications of the Kermit and Monahans operations, respectively.

6.3.3.Frac Sand Reserve Estimates

BOYD's estimate of surface mineable frac sand reserves for the Kermit Mines totals approximately 337.6 million saleable product tons, as of December 31, 2023.

Estimated surface mineable frac sand reserves for Atlas's Monahans Mine total approximately 150.5 million saleable product tons, as of December 31, 2023.

The following table presents the estimated frac sand reserve by product (size), for each operation, as of December 31, 2023.

Table 6.4: Frac Sand Reserves as of December 31, 2023
Tons (000) By Classification and Mesh Size

Control	Proven			Probable			Total By Mesh Size		
	40/70	70/140	Total	40/70	70/140	Total	40/70	70/140	Total
	Kermit Mines								
Owned	81,869	67,718	149,587	254	317	571	82,132	68,035	150,158
Leased	70,709	80,410	151,119	16,215	20,066	36,281	86,924	100,476	187,400
Total	152,578	148,128	300,706	16,469	20,383	36,852	169,047	168,511	337,558
	Monahans Mine								
Leased	90,294	58,000	148,294	1,372	819	2,191	91,666	58,819	150,485

The reported reserves include only frac sand which is reportedly leased or owned as of December 31, 2023.

Atlas owns approximately 150.2 million product tons at the Kermit Mines, or approximately 44% of the current frac sand reserves for this operation, with the remainder held under lease agreements.

At the Monahans Mine, Atlas holds leases for all reported reserves.

The frac sand reserves at Atlas's Kermit and Monahans mines are generally well-explored and defined. It is our conclusion that approximately 91% of the stated reserves at the Kermit Mines, and approximately 98% of the stated reserves at the Monahans Mine, can be classified in the proven reliability category (the highest level of assurance) with the remainder classified as probable.

The estimated product distribution of the frac sand reserves is based on a combination of available laboratory gradation test data and actual production yields provided by Atlas. Grain size distribution and overall yields may vary based on the depth and location at which mining occurs.

The subject operations, and other frac sand operations in the area, have a well-established history of mining and selling frac sand products into the local Permian Basin energy fields. BOYD has assessed that sufficient studies have been undertaken to enable the frac sand resources to be converted to frac sand reserves based on current and proposed operating methods and practices. Changes in the factors and assumptions employed in these studies may materially affect the frac sand reserve estimate.

The economic viability of the stated frac sand reserves is demonstrated by forecasted sales prices of \$30.00 per ton sold for all products sold from the Kermit and Monahans operations (refer to Sections 11.2.4.1 and 11.3.4.1 for additional information). The economic analyses performed on the Kermit and Monahans operations support the statements of frac sand reserves provided herein (refer to Chapter 12 for additional information pertaining to the respective economic analyses).

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6.3.4. Significant Risks and Uncertainties

The extent to which the frac sand reserves may be affected by any known geological, operational, environmental, permitting, legal, title, variation, socio-economic, marketing, political, or other relevant issues has been reviewed as warranted. It is the opinion of BOYD that Atlas has appropriately mitigated, or has the operational acumen to mitigate, the risks associated with these factors. BOYD is not aware of any additional risks that could materially affect the development of the frac sand reserves.

Given the data available at the time this report was prepared, the estimates presented herein are considered reasonable. However, they should be accepted with the understanding that additional data and analysis available after the date of the estimate may result in a change to the current estimate. These revisions may be material.

Based on our independent estimate and operations review, we have a high degree of confidence that the estimates shown in this report accurately represent the available frac sand reserves controlled by Atlas, at the Kermit and Monahans mines, as of December 31, 2023.

6.3.5. Reconciliation with Previous Estimates

When comparing the Kermit Mines' estimated frac sand reserves as of December 31, 2023, with those reported as of December 31, 2022, we note a net increase. This increase is a direct result of converting a significant portion of the operations' frac sand resources to frac sand reserves in order to support the operational capacity of the Kermit Mines. Depletion through ordinary mining operations and inventory sales was also considered, and combined with the added reserves, resulting in a net increase of approximately 144.7 million tons of additional frac sand reserves at the Kermit Mines. Figure 6.4, below, illustrates the effect of each of these changes.

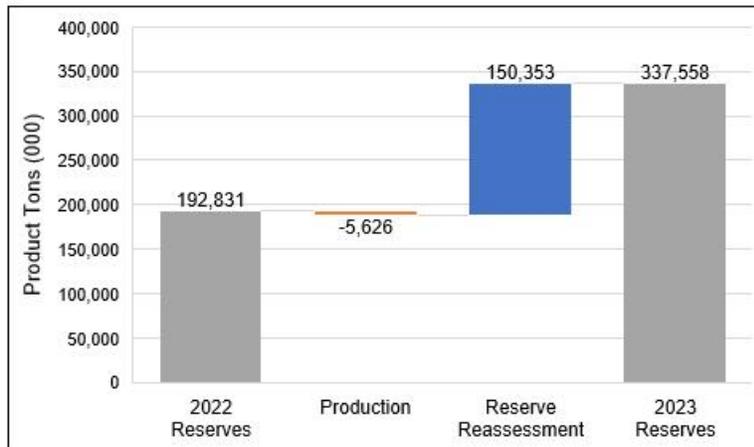


Figure 6.4: Kermit Reconciliation with Previous Frac Sand Reserves Estimate

When comparing the Monahans Mine's estimated frac sand reserves as of December 31, 2023, with those reported as of December 31, 2022, we note a net decrease. This decrease is the result of depletion through ordinary mining operations and inventory sales, as well as minor reserve boundary reassessments. Together, these changes resulted in a net decrease of approximately 14.1 million tons of frac sand reserves at the Monahans Mine. Figure 6.5, below, illustrates the effect of each of these changes.

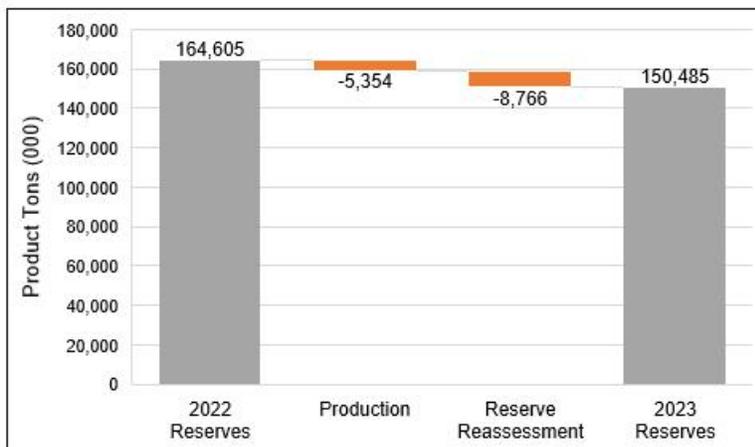


Figure 6.5: Monahans Reconciliation with Previous Frac Sand Reserves Estimate

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7.0 MINING OPERATIONS

7.1. Mining Method

The Kermit and Monahans mines both employ a sequence of dry mining in higher elevation areas initially, followed by dredge mining once excavation penetrates the water table. Most of the mineable area at both locations has minimal overburden and vegetation; as such, sand excavation begins at the ground surface throughout most of the mine plan areas. The water forming the dredge ponds is sourced from a shallow aquifer which lies below each property. Both properties utilize a common suction dredge, which consists of a floating barge that lowers an arm or “ladder” with an attached submersible pump to the bottom of the deposit. The Kermit operations’ dredge pond and one of its dredges are shown in Figure 7.1 below.

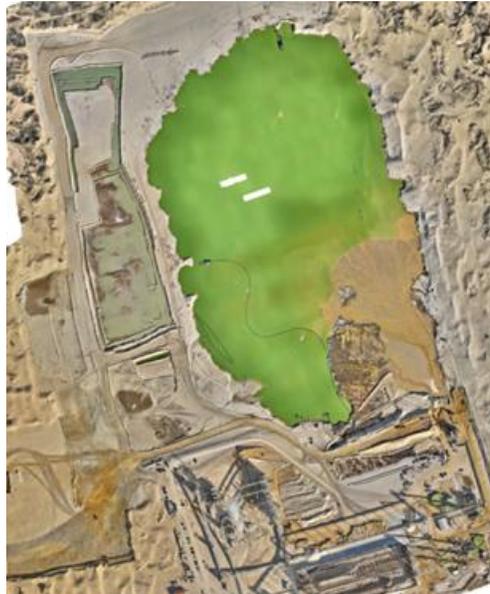


Figure 7.1: Kermit Mines’ Dredge Pond

Dredged sand is pumped through floating poly pipes to the mine skids, where material greater than 1.5 mm in size is removed. The remaining sand is then further pumped to the wet plants, where tailings and excess water are removed and returned to the dredge pit.

7.2. Mine Schedule and Equipment

The Kermit operations are replacing their existing dredge with two new dredges to scale production up to 10.5 million product tons annually. This production target requires approximately 12.4 million ROM tons of sand being mined in total, or between 6 to 6.5 million ROM tons annually, per dredge. Commissioning of the two new dredges is planned for the first half of 2024, at which time the current Kermit dredge will be moved to the Monahans Mine to join the dredge already located there. The Monahans site will dredge approximately 5.7

million ROM tons per year to produce 5 million tons of finished product annually. Between all three operations, the four dredges will operate year-round and be able to supply enough ROM sand to produce between 15 to 16.5 million tons of finished frac sand per year.

The primary mobile equipment involved in the sand excavation, processing, and loading (other than the dredges) includes excavators, dozers, front-end loaders, skid steers, telehandlers, water trucks, personnel lifts, motor graders, sweepers, and vac trailers.

Various fuel tanks, lube tanks, and other storage tanks are also located throughout each of the operations.

7.3.Mine Historical and Forecast Production

7.3.1.Historical Mine Production

Atlas produces predominantly 40/70 mesh and 100 mesh (70/140 mesh) frac sand products for sale into the Permian Basin.

Currently, the final sand products are shipped from both facilities by highway truck. The Kermit Mines will, however, have the capability of shipping finished sand product via conveyor once construction on Atlas's "Dune Express" overland conveyor system is complete. Production from the subject operations commenced in July 2018 at Kermit, and October 2018 at Monahans. Historic production for the last two years is presented in Table 7.1, below.

Table 7.1: Historic ROM Sand Production (000 tons)

	2022	2023
Kermit Mines	5,125	5,742
Monahans Mine	5,282	5,169

7.3.2.Forecasted Production

Forecasted ROM sand production over the next five years for the Kermit and Monahans mines is presented in Table 7.2, below.

Table 7.2: Forecasted ROM Sand Production (000 tons)

	2024	2025	2026	2027	2028
Kermit Mines	12,355	12,355	12,355	12,355	12,355
Monahans Mine	5,680	5,680	5,680	5,680	5,680

7.4.Mine Plan (Life-of-Mine)**7.4.1.Kermit Mines**

As of December 31, 2023, the frac sand reserves for the Kermit Mines are estimated at 337.6 million product tons. Atlas has developed a long range mine plan, as illustrated in Figure 7.2 on the following page, for the extraction of these reserves, utilizing the following assumptions:

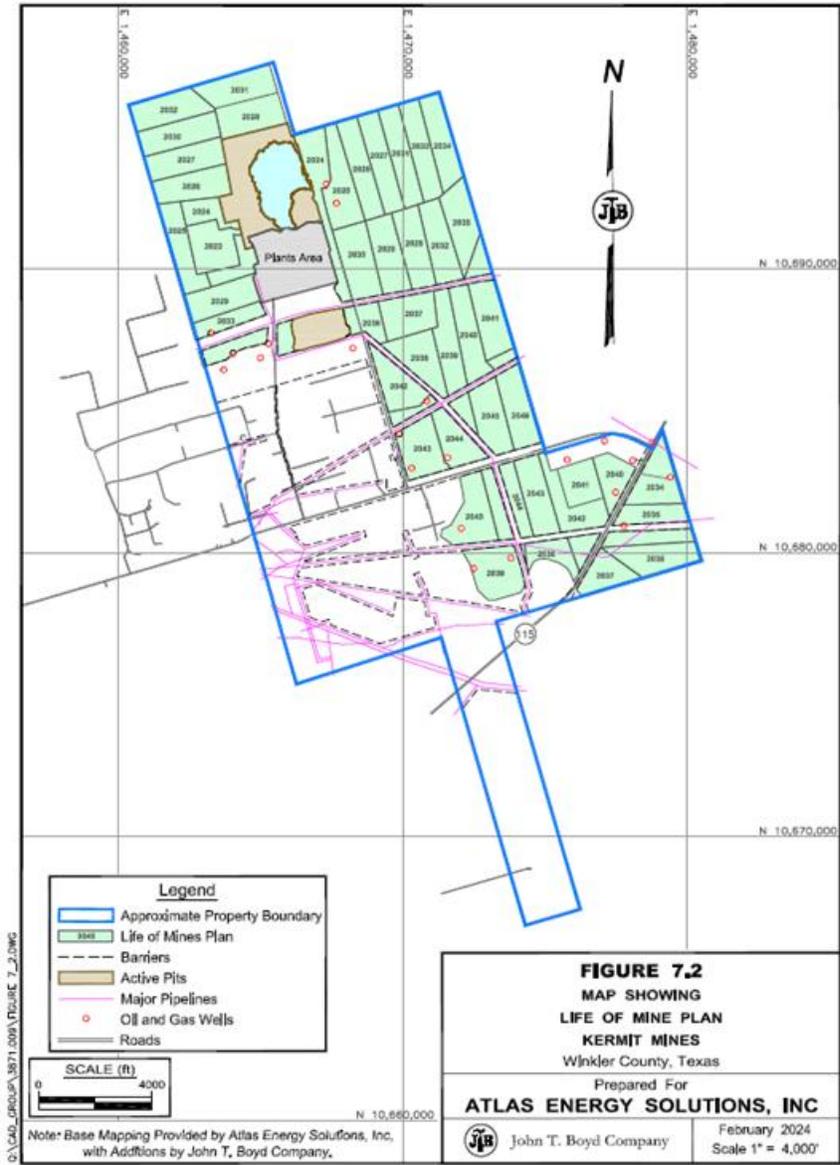
- Total dredge depths ranging from 78 ft to 104 ft below land surface.
- Pumping approximately 12.4 million ROM tons per year.
- Mine life of currently planned frac sand reserve totaling 31 years to 2055, at 10.5 million tons per year sales.

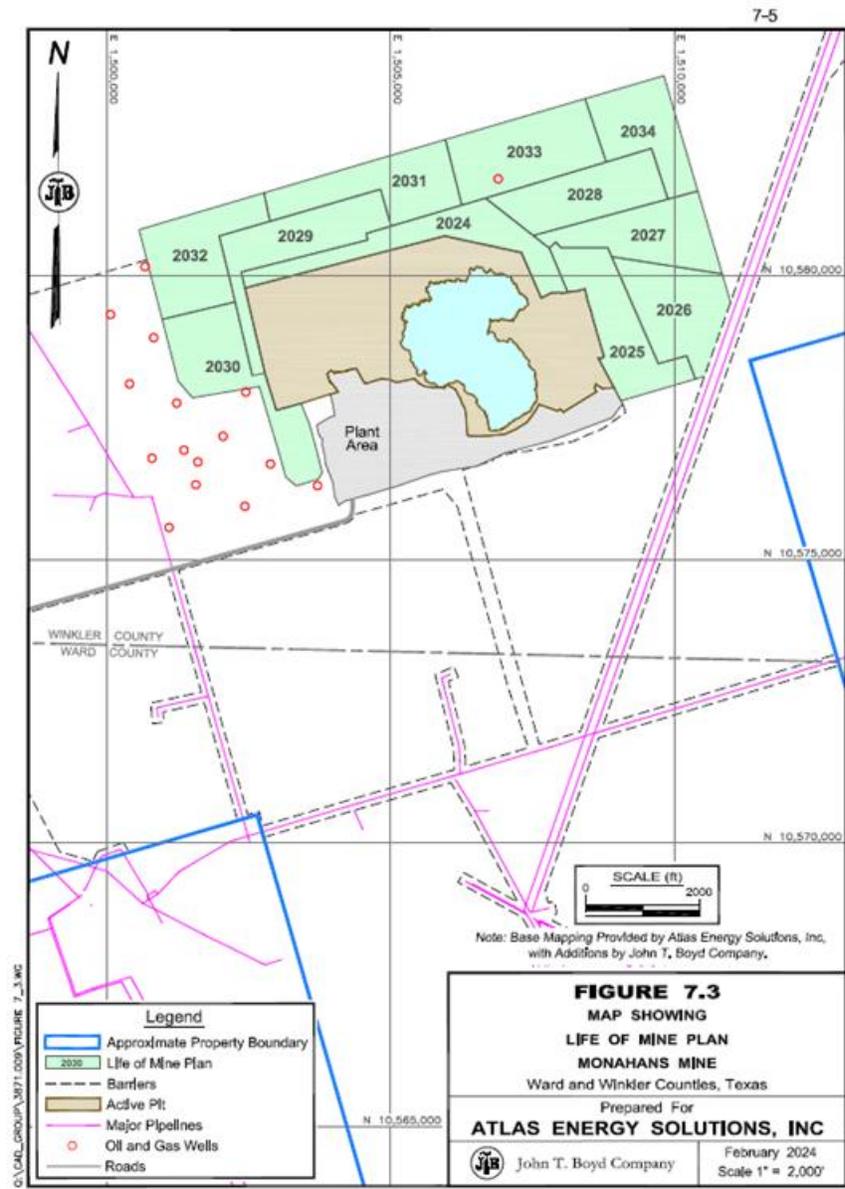
7.4.2.Monahans Mine

As of December 31, 2023, the frac sand reserves for the Monahans Mine are estimated at 150.5 million product tons. The current mine plan is illustrated in Figure 7.3 (page 7-5) and utilizes the following assumptions:

- Dredge depth ranging from 67 ft to 91 ft below land surface.
- Pumping approximately 5.7 million ROM tons per year.
- Mine life of currently planned frac sand reserves is approximately 28 years to 2053.

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7.4.3. Mining Risk

Surface mines face two primary types of operational risks. The first category of risk includes those daily variations in physical mining conditions, mechanical failures, and operational activities that can temporarily disrupt production activities. Several examples are as follows:

- Process water spot shortages
- Power curtailments
- Variations in grain size consistency
- Encountering excessive clay and other waste material
- Failures or breakdowns of operating equipment and supporting infrastructure
- Adverse weather disruptions (power outages, dust storms, excessive heat etc.)

The above conditions/circumstances can adversely affect production on any given day but are not regarded as “risk issues” relative to the long-term operation of a mining entity. Instead, these are considered “nuisance items” that, while undesirable, are encountered on a periodic basis at many mining operations. BOYD does not regard the issues listed above as being material to the mining operations or otherwise compromising their forecasted performance.

The second type of risk is categorized as “event risk.” Items in this category are rare, but significant occurrences that are confined to an individual mine, and ultimately have a pronounced impact on production activities and corresponding financial outcomes. Examples of event risks are major fires or extreme droughts, floods, or unforeseen geological anomalies that disrupt extensive areas of proposed or operating mine workings and require alterations of mining plans. Such an event can result in the cessation of production activities for an undefined but extended period (measured in months, and perhaps years) and/or result in the sterilization of frac sand reserves. This type of risk is minimal in a relatively simple surface sand mining operation.

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8.0 PROCESSING OPERATIONS

8.1 Overview

The processing plants at Kermit and Monahans were constructed by Atlas with work directed and supervised by experienced project managers. Originally, each property had a nominal capacity of approximately 5.5 million tons per year of finished product; however, a second mining and processing facility was added to the Kermit property in 2023, which increased the total production capacity from 5.5 million tons per year to approximately 11 million tons per year. The Kermit and Monahans operations predominantly produce 40/70 mesh and 40/140 mesh-sized frac sand—that is, sand particles larger than 40 mesh and smaller than 140 mesh are not considered finished product and are discarded as waste.

The Kermit process plants, both wet and dry, have an overall process yield of approximately 85%. For every 100 tons ton of ROM dredged material fed into the wet plants, approximately 85 tons of finished sand is produced. Similarly, the Monahans process plant has an approximate process yield of 88%. The estimated process yields reported are the average laboratory yield from the drill hole samples representative of the entire properties. These yields are utilized in the frac sand reserve estimates. Actual process yields may be higher or lower based on the location and depth of mining. Current (2023) process yields are reported to be approximately 86% at Kermit and 91% at Monahans.

The Kermit and Monahans process operations are similar and consist of the following activities:

- Wet Process Plants ROM material from the dredge is pumped to the wet plant where the material larger than 40 mesh and finer than 140 mesh is removed. Fines are eventually pumped back into the depleted dredge lakes.
- Dry Process Plants The damp 40/140 mesh material resulting from the wet process plant is dried and screened into finished products.
- Storage and Loadouts Finished product is stored in silos and gravity loaded into drive through highway truck loadouts for transport to the customer. The Atlas loadouts operate 24 hours per day, 7 days per week, every day of the year.

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A general layout of the processing operations is illustrated in Figure 8.1:

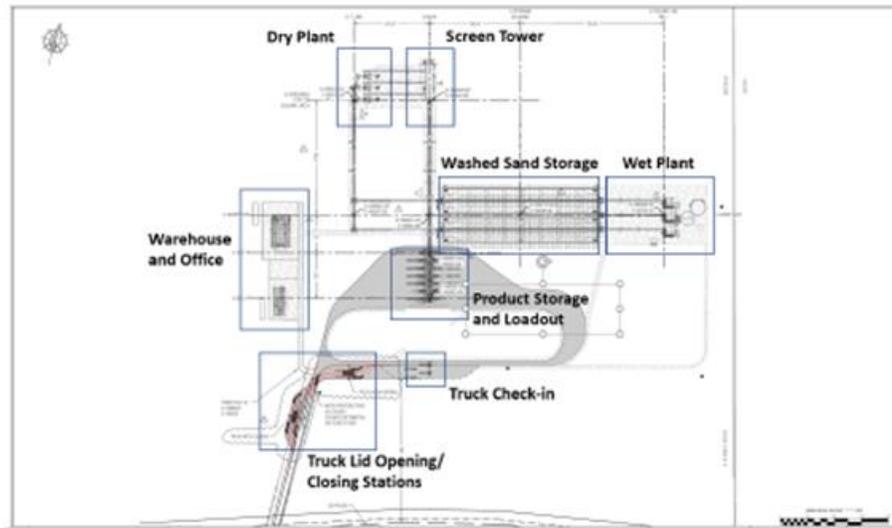


Figure 8.1: General Arrangement Layout of Atlas Processing Plants

8.2. Wet Process Plants

ROM sand is first pumped from the dredge pit to the wet plants where the feed material is dewatered and deslimed before being liberated of clays and other deleterious materials. Rinse water is added and then removed carrying away any contamination, and the process water is then recycled. The closed loop process water circuit should allow for efficient use of water as the majority is collected and recycled, as water conservation is a high priority at the subject operations. Washed sand is then stored in two large stockpiles where it naturally decants prior to dry processing.

The Kermit wet plants have recently increased finished capacity by approximately 750 feed tons per hour to 1500 feed tons per hour. The Monahans wet plant has an approximate capacity of 750 feed tons per hour.

8.3. Dry Process Plants

The dry process plants utilize rotary dryers operating in parallel to complete the drying process. The dryers are fueled by line natural gas. After drying, the sand is conveyed to the screen tower where multi-deck screeners remove oversized material as well as segregate the 40/70 mesh and 40/140 mesh products.

The two Kermit plants recently increased dry plant capacity by 600 tons per hour to 1200 tons per hour of finished product throughput capacity. The Monahans dry plant has 600 tons per hour of finished product throughput capacity.

On-site quality laboratories regularly sample and monitor production and finished sand quality daily.

8.4.Product Storage/Truck Loadouts

The Kermit and Monahans loadouts operate 24 hours per day, 7 days per week, every day of the year. Both facilities have seven under silo product loadouts with truck scales. Figures 8.2 and 8.3 illustrate the overall layout of each plant, including the truck under silo product loadouts. All of the frac sand products are trucked to the well site from the facilities.

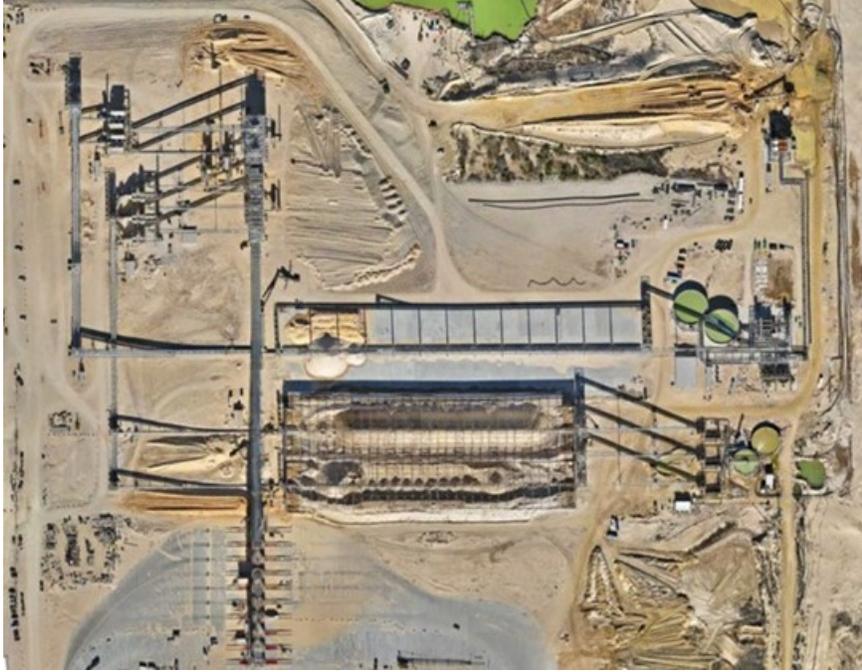


Figure 8.2: Kermit Plant with Capacity Expansion

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Figure 8.3: Monahans Plant with Truck Loadouts

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9.0 MINE INFRASTRUCTURE

9.1.Overview

All of the basic infrastructure required for the ongoing mining and processing operations is in place at the Kermit and Monahans facilities. Figures 3.1 (page 3-3) and 3.2 (page 3-4) illustrate the general layout of the infrastructure at the Kermit and Monahans operations, respectively.

The surface facilities currently located at the operations are well constructed and have the necessary capacity/capabilities to support near-term operating plans. Operational preference may lead to the upgrading of some existing facilities if the operation expands in the future.

BOYD is unaware of any reported interruptions, outages, shortages, or failures related to infrastructure requirements that have materially affected either the Kermit or Monahans operations. Given the operations are well-established, we believe the risk of such events materially affecting the estimates of frac sand reserves presented herein is low.

9.2.Transportation

The Kermit and Monahans operations are serviced by several roads maintained by the local municipality, county, and state governments. These roads are either paved or well-maintained graded roadways. Road access is available year-round.

There is not any rail infrastructure available at either of the operations. All finished frac sand products are currently shipped via bulk trucks. However, Atlas is underway on completing construction of their Dune Express sand conveyor, which is a 42-mile electric conveyor system originating at the Kermit Mines.

9.3.Utilities (Power and Natural Gas)

Each operation is supplied with three-phase line power. Substations access 138 kV lines and step voltage down to 12.5 kV lines which deliver power to the plants. Line natural gas is supplied to all plants. Natural gas line capacity and substation capacity at the plants is sufficient to serve much more than 100% of Atlas's current requirements.

9.4.Process Water

Plant process water is recycled within the plants and is pumped from the dredge pond reservoir. Additional makeup water is obtained from wellfields near the plants. The wells are only utilized as a backup water supply.

9.5.Tailings Disposal

The mining and processing of frac sand at each of the operations creates a substantial amount of tailings (i.e., waste material). These tailings are typically a mixture of clay, very fine sand, and other non-silica minerals. Tailings are typically disposed of in ponds and former mining areas where the solid materials settle to the bottom and water is recovered for reuse. As mining progresses, depleted mining areas will become new tailings disposal sites. A freshwater pond is maintained on the property so water can be stored after processing through the tailings ponds.

9.6.Other Infrastructure

On-site facilities at each operation include a scale house, office, shop, and a quality laboratory located in the dry process plant.

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10.0 MARKET ANALYSIS

The Permian Basin's (Permian) frac sand market is driven by unconventional horizontal drilling in the oil and gas industry. In the late 1990s, rapid advances in horizontal drilling and hydraulic fracturing (fracking) in North America ushered in large-scale commercial oil and gas production. This fracking technique has been increasingly successful and modified over time to extract oil and gas held in dense layers of shale rocks, whose low permeability had previously prevented the flow of hydrocarbons.

Hydraulic fracturing uses a mixture of water, chemicals, and proppant (natural sand or man-made sand-like substances) to fracture shale rock and release hydrocarbons such as oil, natural gas, and natural gas liquids. The proppant acts to keep the fractures open (prop) while the pressurized fluids flow back up the well piping. Wells have become more productive with the addition of horizontal drilling capabilities, longer lateral lengths, and multi-stage fracks.

North America's shale oil industry's growing competitiveness gained through continuous technology improvement and falling production costs have had major implications on the global energy market. Oilfield service companies, including frac sand producers, made significant efficiency gains in 2020 to survive lower commodity prices because of the COVID-19 pandemic. These gains have followed through to present day.

Figure 10.1, on the following page, illustrates the CME Group's West Texas Intermediate (WTI) Crude Oil Annual Average Futures Price. We estimate breakeven pricing for unconventional oil wells in the Permian to be in the \$30 to \$40 per barrel range. 2023 WTI futures estimate pricing to generally be in the \$64 to \$75 range through 2032. This cost and pricing combination supports positive wellfield economics and thus frac sand consumption.

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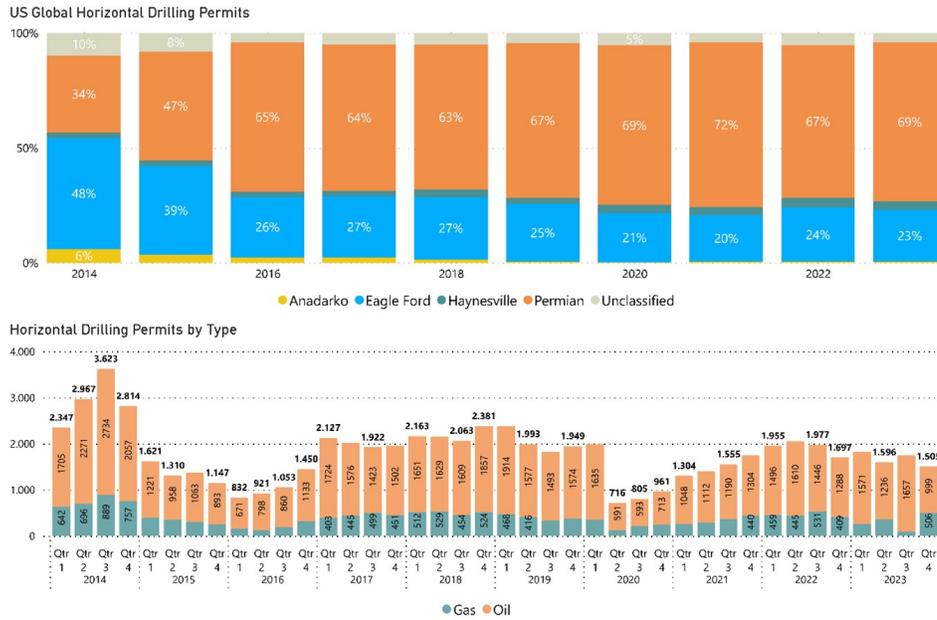


Source: CME Group
Figure 10.1: WTI Crude Oil CME Futures Price

Figure 10.2, on the following page, is compiled from downloaded and processed publicly available data from the Railroad Commission of Texas (RCC) for horizontal oil and gas permits in the U.S. This data shows a steady increment from the post-pandemic all-time low of 716 permits recorded in the 2nd quarter of 2020, to almost 2,000 permits in the 3rd quarter of 2022. From this period until the 4th quarter of 2023, a slow decreasing trend is shown with an average of 1,600 permits by quarter. It is important to note in this figure that most of the permits are based in the Permian region (with an average of 70% of all permits) followed next by permits in the Eagle Ford region (with an average of 21% of all permits) over the last 4 years.

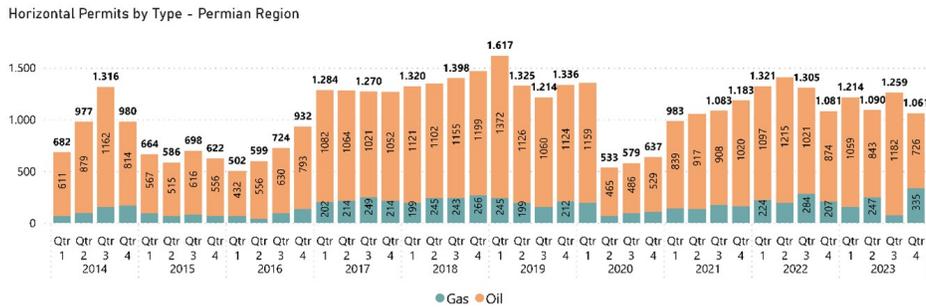
From the 1st quarter of 2021 to the 4th quarter of 2023, the global distribution by permit type is 76% oil and 24% gas. Permit submissions for horizontal oil and gas wells in the

Permian follow the same trend of the U.S. Global Permits which suggests a continuation of strong drilling ahead.



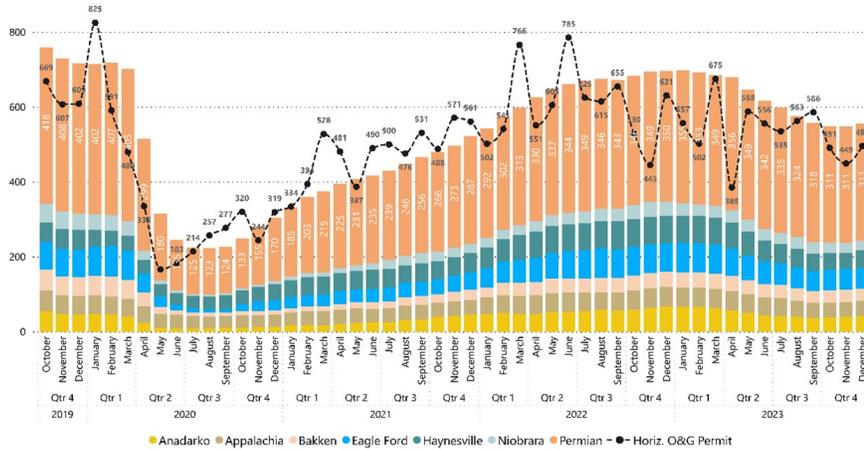
Source RCC
Figure 10.2: U.S. Global Horizontal Drilling Permits by Region and Type

A quarterly summary of Permian horizontal oil and gas well permits (from 2014 through 2023) is presented in Figure 10.3 below.



Source RCC
Figure 10.3: Permian Region Horizontal Drilling Permits by Type

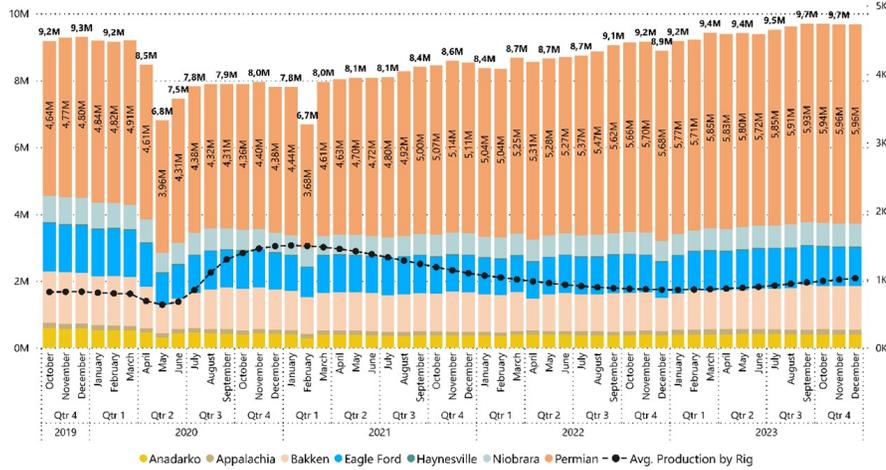
Figure 10.4 was prepared combining data available for the current working rigs by region and the horizontal drilling permits. From September 2020 there is a noticeable and constant increase in the rig counts, reaching an all-time high number of permits since the COVID-19 pandemic in January 2023.



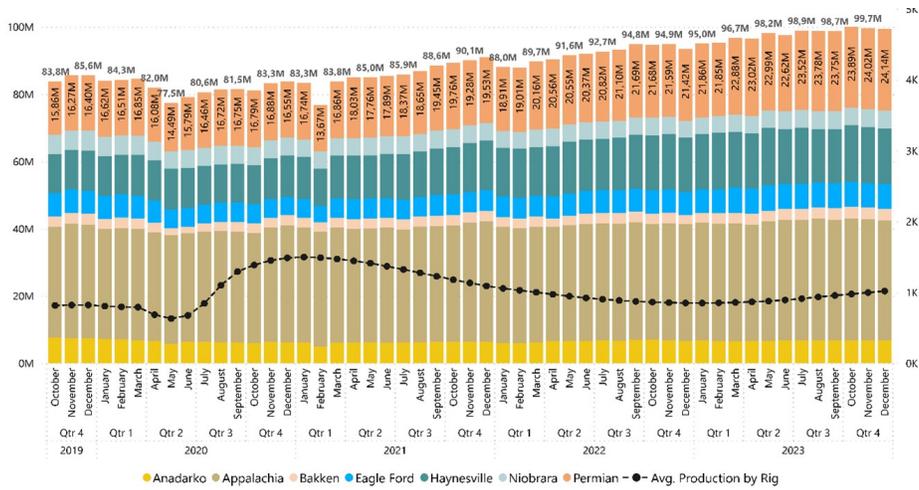
Source EIA and RCC
Figure 10.4: U.S. Horizontal Drilling Permits

During the previous 52 weeks, rig counts were down approximately 13%. However, the continuous growth through the last three years has led to increased production for both crude oil and natural gas. For the same period, crude oil (barrels per day) and natural gas production (thousand cubic feet per day) in the Permian are up 30% and 24%, respectively.

As Figures 10.5 and 10.6 illustrate, Permian daily crude oil production is reaching multi-year highs, while daily natural gas production in the Permian continues to make new records, now standing at 24.1 million cubic feet per day.

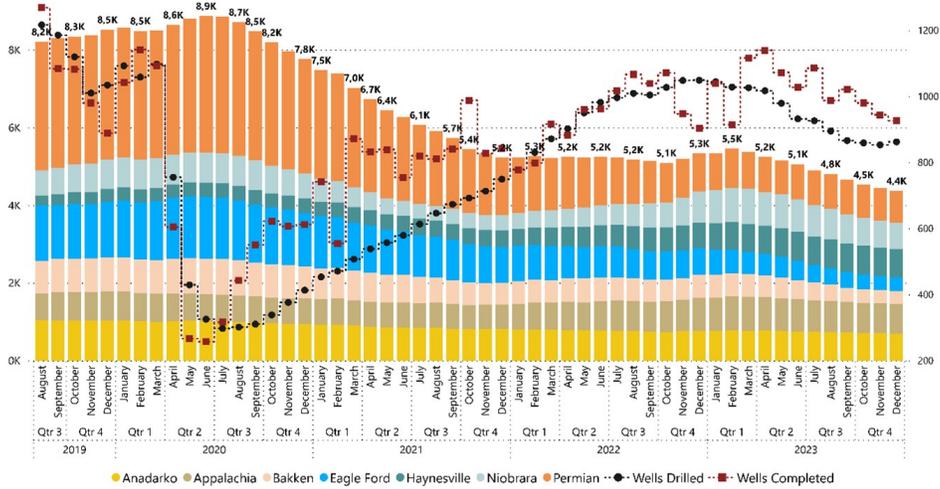


Source EIA
Figure 10.5: Oil Production (bb/d)



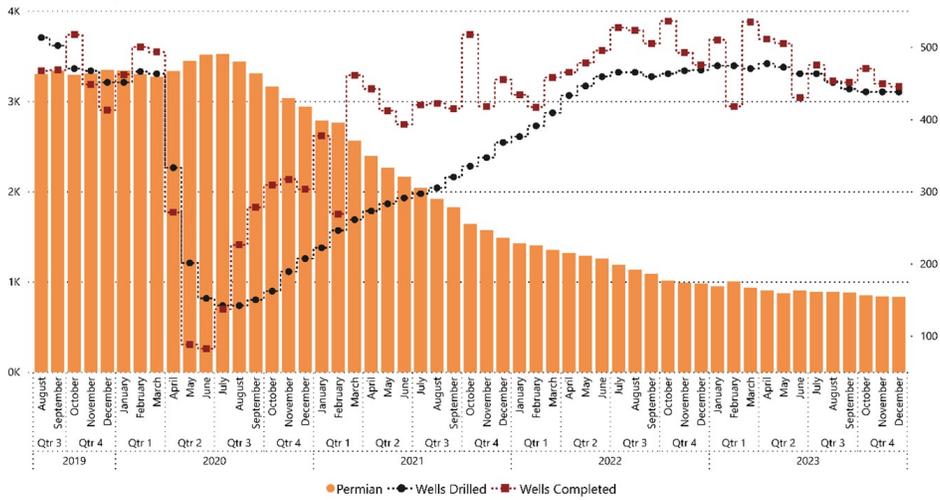
Source EIA
Figure 10.6: Natural Gas Production (Mcf/d)

The EIA's Drilling Productivity Report reports that the inventory of drilled but uncompleted wells (DUCs) in all regions have declined 49% since peaking in July 2020 (refer to Figure 10.7 for all U.S. regions, and Figure 10.8 for the Permian). This data dovetails with increased crude oil and natural gas production.



Source EIA

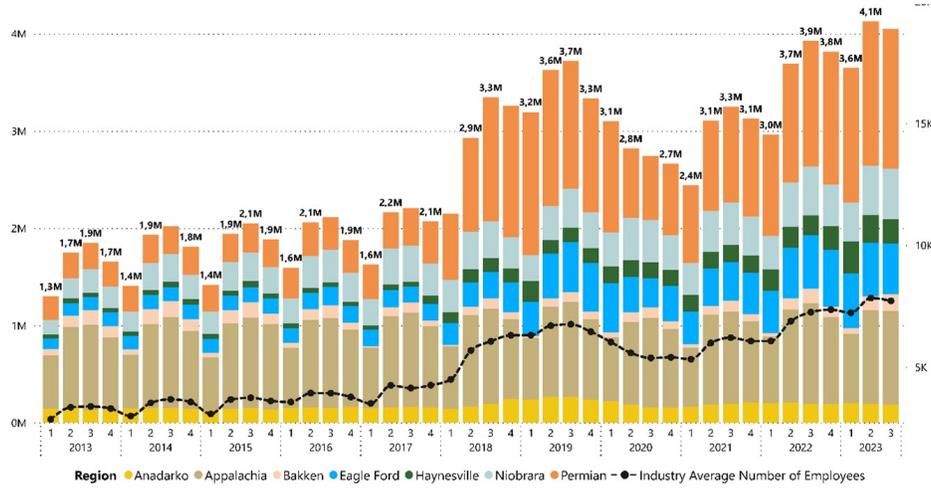
Figure 10.7: U.S. Drilled but Uncompleted Wells (DUC)



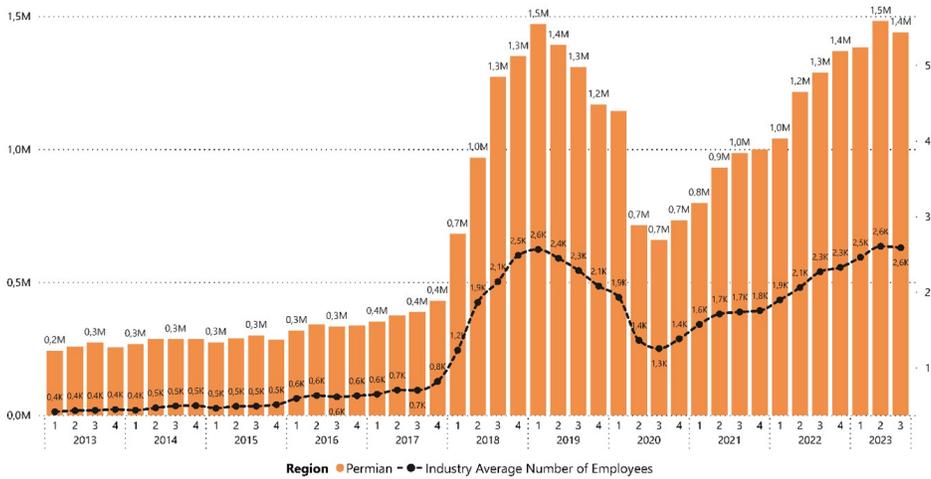
Source EIA

Figure 10.8: Permian Drilled but Uncompleted Wells (DUC)

Consequently, with increases in production and well completions, activity at frac sand mines has correspondingly increased throughout the U.S. According to MSHA, operating hours from 1st quarter of 2021 through 3rd quarter of 2023 were up 60% for Permian Basin frac sand mines. This data is presented in Figures 10.9 (U.S.) and 10.10 (Permian).



Source MSHA
Figure 10.9: All U.S. Regions Mine Hours (Quarterly)



Source MSHA
Figure 10.10: Permian Wide In-Basin Mine Hours (Quarterly)

Industry research speculates that total in-basin mine hours, as of 2nd quarter 2023, are at the same level as the 2019 peak. Mine hours serve as a directional indicator that dovetails with previous crude oil and natural gas production and DUC data. Current frac sand production in the Permian is estimated to be in the 60 million to 65 million tons per year range, with fairly well-balanced demand and stable pricing. BOYD anticipates frac sand pricing stabilizing substantially above the \$30 per ton pricing used in this report. Additionally, we anticipate continued upward sand consumption in the Permian due to economic and geopolitical influences on energy demand.

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11.0 CAPITAL, REVENUES, AND OPERATING COSTS

11.1 Introduction

This chapter will contain two main sections, one for the Kermit Mines and one for the Monahans Mine. Both sections will address similar topics for each mine.

Atlas commenced processing operations at the Kermit Mine in July 2018 and at the Monahans Mine in October 2018. BOYD was originally provided with financial data for the years 2021 and prior, for use in the original previous TRS report (BOYD Report No. 3871.006). Since the initial TRS was completed, Atlas has converted substantial additional frac sand resources into frac sand reserves, completed construction of a second mine on the Kermit Property, and has provided BOYD with updated historic (pre-2023), current year end 2023, and forecasted (projected 2024-on) financial information and forecasts to be utilized in this updated report.

11.2 Kermit Mines

11.2.1 Historical Capital Expenditures

Table 11.1 presents Kermit's annual investment capital expenditures (CapEx) for the last two years, based on fixed asset data provided by Atlas. The addition of a second Kermit mine has substantially expanded frac sand production capacity in 2023. A 42-mile overland sand delivery conveyor is also under construction (Dune Express) for delivery of frac sand from the Kermit Mines to portions of the Permian, and into New Mexico. Capital expenditures for the Dune Express are related to transportation/logistics and not included in the Kermit Mines' CapEx.

**Table 11.1: Kermit Mines'
Historical Capital Expenditures**

Year	CapEx (\$ million)
2022	18.1
2023*	151.6
Total	169.7

* Includes \$6.5 million of joint Kermit/Monahans projects.

11.2.2 Historical Revenues and Sales

Table 11.2 presents Atlas's historical annual sales data for 2022 and 2023. Year-over-year (YOY) prices have increased approximately 8% at Kermit.

Table 11.2: Kermit Mines' Historical sales

	2022	2023
Tons sold (000)	5,125	5,626
Revenues (\$ 000)	200,867	237,074
Product Pricing (\$ per ton sold)	39.19	42.14

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11.2.3 Historical Cost of Production

Table 11.3 presents Kermit's historical Cash Cost of Production for the years 2022 and 2023.

Table 11.3: Kermit Mines' Historical Cost of Production

	2022	2023
Cash Cost of Production (\$ 000)	65,432	64,797
\$ per ton sold	12.77	11.52

Cash Cost of Production is actual through November and annualized for the respective year. Included are the costs associated with mining, wet processing, dry processing, product loadout, maintenance, quality control, property taxes, royalties, and other related operating costs.

11.2.4 Projected Production, Sales, and Costs

BOYD was provided with production, sales, and cost projections for the Kermit Mines, which forecasted financial data, product pricing, and costs in 2023 constant dollars. BOYD opines that the production and financial projections are reasonable and are likely to be within $\pm 20\%$ accuracy level.

11.2.4.1 Production and Sales Projections

Annual forecasted ROM production of approximately 12.4 million tons per year is based on the dry plants producing 10.5 million tons per year of saleable product after accounting for processing losses as discussed in Chapter 6. Forecasted dry processing plant production is within the operation's current infrastructure capacities and capabilities, following the substantial capacity increase resulting from the two Kermit Mines' processing plants.

As noted in Table 11.4, the dry processing plants are projected to produce approximately 10.5 million tons per year of 40/70 mesh and 40/140 mesh frac sand.

The forecasted sales price of \$30 per ton for all products presented in Table 11.4 is based on a significant reduction in current pricing (\$42.14 per ton) to account for market share expansion to 10.5 million tons per year. We opine that this is a reasonable price projection.

Table 11.4: Kermit Mines' Sales Projections

	2024	2025	2026	2027	2028
Tons sold (000)	10,500	10,500	10,500	10,500	10,500
Revenues (\$ 000)	315,000	315,000	315,000	315,000	315,000
Product Pricing (\$ per ton sold)	30.00	30.00	30.00	30.00	30.00

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11.2.4.2 Operating Cost Projections

Table 11.5, below, presents the cash cost projections for 2024 through 2028. Operating cost projections were provided by Atlas and are based on prior year and current year actuals and the fixed cost per unit reductions as capacity is increased. BOYD considers their estimates to be reasonable, however adjustments were made based on our review of historical operating costs and our experience with similar frac sand mining operations.

Table 11.5: Kermit Mines' Cash Cost of Production Projections

	2024	2025	2026	2027	2028
Total Cash Cost of Production (\$ 000)	92,265	91,818	91,818	91,818	91,818
\$ per ton sold	8.79	8.74	8.74	8.74	8.74

11.2.4.3 Projected Sustaining Capital Expenditures

Atlas projected sustaining CapEx, which includes maintenance of production equipment, as well as other items, to be \$3.3 million per year. The projected annual CapEx is a reasonable estimate.

11.3 Monahans Mine

11.3.1 Historical Capital Expenditures

Table 11.6 presents Monahan's investment CapEx for the years 2022 and 2023 based on fixed asset data provided by Atlas.

**Table 11.6: Monahans Mine's
Historical Capital Expenditures**

Year	CapEx (\$ millions)
2022	14.1
2023*	23.7
Total	37.8

* Includes \$6.5 million of joint Kermit/Monahans projects.

11.3.2 Historical Revenues and Sales

Table 11.7 presents Atlas's historical sales data for the years 2022 and 2023. YOY prices have increased approximately 6% at Monahans.

Table 11.7: Monahans Mine's Historical sales

	2022	2023
Tons sold (000)	5,062	5,354
Revenues (\$ 000)	206,398	226,792
Product Pricing (\$ per ton sold)	40.77	42.36

11.3.3 Historical Cash Operating Costs

Table 11.8 presents the Monahans Mine's historical Cash Cost of Production data for the years 2022 and 2023.

Table 11.8: Monahans Mine's Historical Cost of Production

	2022	2023
Cash Cost of Production (\$ 000)	66,606	67,999
\$ per ton sold	13.16	12.70

Cash Cost of Production is actual through November and annualized for the respective year. Included are the costs associated with mining, wet processing, dry processing, product loadout, maintenance, quality control, property taxes, royalties, and other related operating costs.

11.3.4 Projected Production, Sales, and Costs

BOYD was provided with production, sales, and cost projections for the Monahans Mine, which forecasted financial data, product pricing, and costs in 2021 constant dollars.

BOYD opines that the production and financial projections are reasonable and are likely to be within $\pm 20\%$ accuracy level.

11.3.4.1 Production and Sales Projections

Annual forecasted ROM production of approximately 5.7 million tons per year is based on the dry plant producing 5.0 million tons per year of saleable frac sand after accounting for processing losses of approximately 12%, as discussed in Chapter 6. Forecasted dry processing plant production is within the operation's current infrastructure capacities and capabilities.

As noted in Table 11.9, the dry processing plant is projected to produce approximately 5.0 million tons per year of saleable 40/70 mesh and 40/140 mesh frac sand.

The forecasted average sales price of \$30 per ton for all products presented in Table 11.9 is based on long term average pricing as provided by Atlas and reflects a significant discount from actual 2022 and 2023 prices. We opine that this is a reasonable average sales price.

Table 11.9: Monahans Mine's Sales Projections

	2024	2025	2026	2027	2028
Tons sold (000)	5,000	5,000	5,000	5,000	5,000
Revenues (\$ 000)	150,000	150,000	150,000	150,000	150,000
Product Pricing (\$ per ton sold)	30.00	30.00	30.00	30.00	30.00

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11.3.4.2 Operating Cost Projections

Table 11.10, below, presents the cash cost projections for 2024 through 2028. Operating cost projections were provided by Atlas and are based on the prior year and current year actuals. BOYD considered their estimates to be reasonable, however adjustments were made based on our review of historical operating costs and our experience with similar frac sand mining operations.

Table 11.10: Monahans Mine's Cash Cost of Production Projections

	2024	2025	2026	2027	2028
Total Cash Cost of Production (\$ 000)	57,450	57,250	57,250	57,250	57,250
\$ per ton sold	11.49	11.45	11.45	11.45	11.45

11.3.4.3 Projected Sustaining Capital Expenditures

Atlas projected sustaining CapEx, which includes maintenance of production equipment as well as other items, to be \$3.3 million per year. The projected annual CapEx is a reasonable estimate.

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12.0 ECONOMIC ANALYSIS

12.1.Introduction

This chapter will contain two main sections, one for the Kermit Mines and one for the Monahans Mine. Each section will address similar topics in their respective subsections.

Cash flow projections for the Kermit and Monahans operations have been generated from their respective proposed LOM production schedules and revenues, cost of production, and CapEx estimates discussed in Chapter 11. A summary of the key assumptions used is provided below.

- LOM ROM frac sand tons and finished product tons sold were based on the respective total frac sand reserve estimates discussed in Chapter 6 of this report. The Kermit Mines are estimated to be depleted in approximately 32 years, in 2055, based on the current reserve estimate and sales of 10.5 million tons per year . The Monahans Mine is estimated to be depleted in approximately 30 years, in 2053, based on the current reserve estimate and annual sales of 5.0 million tons per year. This estimate will fluctuate, possibly substantially, based on market conditions in the Permian Basin and/or additional reserves being converted/acquired.

- Forecasted revenues at the respective on-site loadouts (mine gate) are based on sales of both 40/70 and 40/140 mesh size products to be delivered by truck or conveyor to various sites in the Permian Basin.

- Projected Operating Costs and Other Costs (as discussed in Chapter 11) include:

- Employee wages, benefits, and other employee expenses
- Contract mining
- Maintenance
- Mobile Equipment and Fuel
- Utilities (including dryer fuel) and Waste Disposal
- Other Operating Expenses (includes Property Taxes, Reclamation)
- Royalty

- Capital Expenditures (as discussed in Chapter 11) include:

- Sustaining/Maintenance

- Taxes are based on:

- Federal Business Income Tax Rate of 21%

- Adjustments used to determine After-Tax cash flows:

- Current fixed assets, by asset class, are depreciated based on their respective Year 2023 average monthly expense.
- Depreciation expense for new fixed assets (from sustaining/maintenance CapEx) are based on a straight-line depreciation calculation using a 10-year asset life.
- Operating losses, if any, are carried forward in the tax computation.

12.2.Kermit Mines

12.2.1.Economic Analysis

BOYD prepared an economic analysis, as of January 1, 2024, for the Kermit Mines using the production, sales, and financial projections presented in this report. Our analysis confirms that the operations generate positive cash flows (based on a 10% discount rate), on a pre-tax and after-tax basis, thus supporting the statement of frac sand reserves provided herein.

12.2.2.Cash Flow Analysis

Table 12.1, below, presents the five-year pre-tax and after-tax cash flow projections based on the proposed LOM production schedule and revenue, cost of production, and CapEx estimates discussed above for the Kermit Mines.

Table 12.1: Kermit Mines' Five-Year Cash Flow Summary

	2024	2025	2026	2027	2028	Total
Total Tons Sold (000)	10,500	10,500	10,500	10,500	10,500	52,500
Revenues (\$ 000)	315,000	315,000	315,000	315,000	315,000	1,575,000
Cost of Production (\$ 000)	92,265	91,818	91,818	91,818	91,818	459,537
CapEx (\$ 000)	3,300	3,300	3,300	3,300	3,300	16,500
Net Pre-Tax Cash Flow (\$ 000)	219,435	219,882	219,882	219,882	219,882	1,098,963
Federal Income Tax (\$ 000)	43,786	43,811	43,741	43,672	43,603	218,613
Net After-Tax Cash Flow (\$ 000)	175,649	176,071	176,141	176,210	176,279	880,350

Three DCF-NPVs on a pre-tax basis and three DCF-NPVs on an after-tax basis, using discount rates of 8%, 10%, and 12%, were calculated utilizing the cash flows above. The

DCF-NPV values used mid-year discounting and all cash flows were on a constant dollar basis.

The pre-tax DCF-NPVs range from approximately \$1,887 million to \$2,613 million, and the after-tax DCF-NPVs range from approximately \$1,514 million to \$2,100 million. Table 12.2 summarizes the results of the pre-tax and after-tax analyses:

**Table 12.2: Kermit Mines'
DCF-NPV Analysis**

	DCF-NPV (\$ millions)		
	8%	10%	12%
Pre-Tax	2,613	2,196	1,887
After-Tax	2,100	1,764	1,514

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Refer to Table 12.3, on the following page, for the detailed LOM cash flow analysis and corresponding pre-tax and after-tax DCF-NPV analyses at a 10% discount rate.

BOYD notes that the DCF-NPV estimate was made for purposes of confirming the economic viability of the reported frac sand reserves and not for purposes of valuing Atlas, the Kermit Mines, or their assets. IRR and project payback were not calculated, as there was no initial investment considered in the financial model. Risk is subjective, as such, BOYD recommends that each reader should evaluate the project based on their own investment criteria.

TABLE 12.3

PRE-TAX AND AFTER-TAX CASH FLOW ANALYSIS
KERMIT MINES
Winkler County, Texas
Prepared For
ATLAS ENERGY SOLUTIONS, INC.
By
John T. Boyd Company
Mining and Geological Consultants
February 2024

	2024	2025	2026	2027	2028	2029 to 2033	2034 to 2043	2044 to 2055	Total
<u>Production Statistics (Tons 000):</u>									
ROM Production	12,355	12,355	12,355	12,355	12,355	61,775	123,550	148,260	395,360
Overall Processing Recovery (%)	85	85	85	85	85	85	85	85	85
Dry Plant Product	10,500	10,500	10,500	10,500	10,500	52,500	105,000	126,000	336,000
<u>Sales and Financial Data:</u>									
Saleable Product Tons Sold (000):	10,500	10,500	10,500	10,500	10,500	52,500	105,000	126,000	336,000
Product Pricing (\$ per ton)	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
Revenues (\$ 000)	315,000	315,000	315,000	315,000	315,000	1,575,000	3,150,000	3,780,000	10,080,000
Cost of Production (\$ 000)	92,265	91,818	91,818	91,818	91,818	459,090	918,180	1,101,816	2,938,623
\$ per ton sold	8.79	8.74	8.74	8.74	8.74	8.74	8.74	8.74	8.75
Net Pre-Tax Cash Flow Before CapEx (\$ 000)	222,735	223,182	223,182	223,182	223,182	1,115,910	2,231,820	2,678,184	7,141,377
\$ per ton sold	21.21	21.26	21.26	21.26	21.26	21.26	21.26	21.26	21.25
<u>CapEx (\$ 000):</u>									
Total CapEx	3,300	3,300	3,300	3,300	3,300	16,500	33,000	39,600	105,600
Net Pre-Tax Cash Flow (\$ 000)	219,435	219,882	219,882	219,882	219,882	1,099,410	2,198,820	2,638,584	7,035,777
Federal Income Tax (\$ 000)	43,786	43,811	43,741	43,672	43,603	216,974	432,562	554,103	1,422,252
After-Tax Net Cash Flow (\$ 000)	175,649	176,071	176,141	176,210	176,279	882,436	1,766,258	2,084,481	5,613,525
<u>DCF-NPV Analysis (\$ 000):</u>									
Pre-Tax Discounted Cash Flows at 10%	209,223	190,590	173,264	157,513	143,193	542,815	546,324	233,569	2,196,491
Cumulative Pre-Tax Discounted Cash Flows at 10%	209,223	399,813	573,077	730,590	873,783	1,416,598	1,962,922	2,196,491	
After-Tax Discounted Cash Flows at 10%	167,475	152,616	138,796	126,288	114,798	435,655	438,849	189,336	1,763,753
Cumulative After-Tax Discounted Cash Flows at 10%	167,475	320,091	458,887	585,115	699,913	1,135,568	1,574,417	1,763,753	

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12.2.3.Sensitivity Analyses

Sensitivity analyses for the after-tax cash flow considering changes to revenues and Cost of Production were prepared using a discount rate of 10%. Revenues were adjusted in increments of 5% and range from minus 15% to plus 15% base revenues; the corresponding weighted average sales price would range from \$25.50 per ton sold to \$34.50 per ton sold, with the base price of \$30.00 per ton sold as noted in Table 12.4, below.

Table 12.4: Price Adjustments for Sensitivity Analysis

Adjustment	Average Sales Price (\$)
-15%	25.50
-10%	27.00
-5%	28.50
0%	30.00
+5%	31.50
+10%	33.00
+15%	34.50

Costs were adjusted in increments of 5% and range from minus 15% to plus 15% base costs. BOYD notes that although the royalty expense is in Cost of Production, it changes with revenues as it is a function of revenue.

12.2.3.1 After-Tax Sensitivity Analyses

Table 12.5, below, summarizes the results of the after-tax sensitivity analyses, which utilize a 10% discount rate and incorporate the changes to revenue and cost of production discussed above:

Table 12.5: Sensitivity of Kermit Mines' After-Tax DCF-NPV at 10% (\$ millions)

Cost of Production	Revenues							
	-15%	-10%	-5%	0%	+5%	+10%	+15%	
-15%	1,499	1,623	1,748	1,873	1,997	2,122	2,242	
-10%	1,462	1,587	1,712	1,836	1,961	2,086	2,210	
-5%	1,426	1,551	1,675	1,800	1,925	2,049	2,174	
0%	1,390	1,514	1,632	1,764	1,881	2,013	2,138	
+5%	1,353	1,478	1,603	1,727	1,852	1,977	2,101	
+10%	1,317	1,442	1,566	1,691	1,816	1,940	2,065	
+15%	1,281	1,405	1,530	1,655	1,780	1,904	2,029	

12.3. Monahans Mine

12.3.1. Economic Analysis

BOYD prepared an economic analysis, as of January 1, 2024, for the Monahans Mine using the production, sales, and financial projections presented in this report. Our analysis confirms that the operation generates positive cash flows (based on a 10% discount rate), on a pre-tax and after-tax basis, and supports the statement of frac sand reserves provided herein.

12.3.2. Cash Flow Analysis

Table 12.6, below, presents the five-year pre-tax and after-tax cash flow projections based on the proposed LOM production schedule and revenue, cost of production, and CapEx estimates discussed above for the Monahans Mine.

Table 12.6: Monahans Mine's Five-Year Cash Flow Summary

	2024	2025	2026	2027	2028	Total
Total Tons Sold (000)	5,000	5,000	5,000	5,000	5,000	25,000
Revenues (\$ 000)	150,000	150,000	150,000	150,000	150,000	750,000
Cost of Production (\$ 000)	57,450	57,250	57,250	57,250	57,250	286,450
CapEx (\$ 000)	3,300	3,300	3,300	3,300	3,300	16,500
Net Pre-Tax Cash Flow (\$ 000)	89,250	89,450	89,450	89,450	89,450	447,050
Federal Income Tax (\$ 000)	16,993	16,966	16,896	16,827	16,758	84,439
Net After-Tax Cash Flow (\$ 000)	72,257	72,484	72,554	72,623	72,692	362,611

Three DCF-NPVs on a pre-tax basis and three DCF-NPVs on an after-tax basis, using discount rates of 8%, 10%, and 12%, were calculated utilizing the cash flows above. The DCF-NPV values used mid-year discounting and all cash flows were on a constant dollar basis.

The pre-tax DCF-NPVs range from approximately \$762 million to \$1,046 million, and the after-tax DCF-NPVs range from approximately \$619 million to \$848 million. Table 12.7 summarizes the results of the pre-tax and after-tax analyses:

Table 12.7: Monahans Mine's DCF-NPV Analysis

	DCF-NPV (\$ millions)		
	8%	10%	12%
Pre-Tax	1,046	884	762
After-Tax	848	717	619

Refer to Table 12.8, on the following page, for the detailed LOM cash flow analysis and corresponding pre-tax and after-tax DCF-NPV analyses at a 10% discount rate.

BOYD notes that the NPV estimate was made for purposes of confirming the economic viability of the reported frac sand reserves and not for purposes of valuing Atlas, the Monahans Mine, or its assets. IRR and project payback were not calculated, as there was no initial investment considered in the financial model. Risk is subjective, as such, BOYD recommends that each reader should evaluate the project based on their own investment criteria.

TABLE 12.8

PRE-TAX AND AFTER-TAX CASH FLOW ANALYSIS
MONAHANS MINE
Ward and Winkler Counties, Texas
Prepared For
ATLAS ENERGY SOLUTIONS, INC.
By
John T. Boyd Company
Mining and Geological Consultants
February 2024

	2024	2025	2026	2027	2028	2029 to 2033	2034 to 2043	2044 to 2053	Total
<u>Production Statistics (Tons 000):</u>									
ROM Production	5,680	5,680	5,680	5,680	5,680	28,400	56,800	56,800	170,400
Overall Processing Recovery (%)	88	88	88	88	88	88	88	88	85
Dry Plant Product	5,000	5,000	5,000	5,000	5,000	25,000	50,000	50,000	150,000
<u>Sales and Financial Data</u>									
Saleable Product Tons Sold (000):	5,000	5,000	5,000	5,000	5,000	25,000	50,000	50,000	150,000
Product Pricing (\$ per ton)	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
Revenues (\$ 000)	150,000	150,000	150,000	150,000	150,000	750,000	1,500,000	1,500,000	4,500,000
Cost of Production (\$ 000)	57,450	57,250	57,250	57,250	57,250	286,250	572,500	572,500	1,717,700
\$ per ton sold	11.49	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45
Net Pre-Tax Cash Flow Before CapEx (\$ 000)	92,550	92,750	92,750	92,750	92,750	463,750	927,500	927,500	2,782,300
\$ per ton sold	18.51	18.55	18.55	18.55	18.55	18.55	18.55	18.55	18.55
<u>CapEx (\$ 000):</u>									
Total CapEx	3,300	3,300	3,300	3,300	3,300	16,500	33,000	33,000	99,000
Net Pre-Tax Cash Flow (\$ 000)	89,250	89,450	89,450	89,450	89,450	447,250	894,500	894,500	2,683,300
Federal Income Tax (\$ 000)	16,993	16,966	16,896	16,827	16,758	82,749	164,111	188,261	519,559
After-Tax Net Cash Flow (\$ 000)	72,257	72,484	72,554	72,623	72,692	364,501	730,389	706,239	2,163,741
<u>DCF-NPV Analysis (\$ 000):</u>									
Pre-Tax Discounted Cash Flows at 10%	85,097	77,534	70,485	64,078	58,252	220,822	222,250	85,687	884,204
Cumulative Pre-Tax Discounted Cash Flows at 10%	85,097	162,630	233,116	297,193	355,446	576,268	798,517	884,204	
After-Tax Discounted Cash Flows at 10%	68,895	62,828	57,171	52,024	47,339	179,934	181,474	67,666	717,331
Cumulative After-Tax Discounted Cash Flows at 10%	68,895	131,723	188,894	240,918	288,257	468,191	649,665	717,331	

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12.3.3.Sensitivity Analyses

Sensitivity analyses for the after-tax cash flow considering changes to revenues and Cost of Production were prepared using a discount rate of 10%. Revenues were adjusted in increments of 5% and range from minus 15% to plus 15% base revenues; the corresponding weighted average sales price would range from \$25.50 per ton sold to \$34.50 per ton sold, with the base price of \$30.00 per ton sold as noted in Table 12.9, below.

Table 12.9: Price Adjustments for Sensitivity Analysis

Adjustment	Average Sales Price (\$)
-15%	25.50
-10%	27.00
-5%	28.50
0%	30.00
+5%	31.50
+10%	33.00
+15%	34.50

Costs were adjusted in increments of 5% and range from minus 15% to plus 15% base costs. BOYD notes that although the royalty expense is in Cost of Production, it changes with revenues as it is a function of revenue.

12.2.3.1 After-Tax Sensitivity Analyses

Table 12.10, below, summarizes the results of the after-tax sensitivity analyses performed, which utilize a 10% discount rate and incorporate the changes to revenue and cost of production discussed above:

Table 12.10: Sensitivity of Monahans Mine's After-Tax DCF-NPV at 10% (\$ millions)

Cost of Production	Revenues							
		-15%	-10%	-5%	0%	+5%	+10%	+15%
-15%	609	667	726	784	843	902	960	
-10%	586	645	703	762	821	879	938	
-5%	564	622	681	740	798	857	915	
0%	542	600	659	717	775	834	893	
+5%	519	578	636	695	754	812	871	
+10%	497	555	614	673	731	790	848	
+15%	475	533	592	650	709	767	826	

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13.0 PERMITTING AND COMPLIANCE

13.1. Permitting Requirements and Status

The Kermit and Monahans operations are predominantly regulated by the TCEQ with respect to environmental compliance. The predominant permitting requirement for the operations is an active Air New Source Permit for air pollution control. Other permit requirements include annually renewable Aggregate Production Operation Registrations, Public Water System/Supply (i.e., water well) Registrations, and On-Site Sewage Facilities (Septic Systems) Permits. A summary of the permits for the operations is provided in Table 13.1, below.

Table 13.1: Permit/Registration Summary			
Permit Type	Permit ID	Status	Renewal Date
<u>Kermit Mines</u>			
Aggregate Production Operation	Registration No. AP0002721	Active	9/11/2024
Air New Source Permits	Permit No. 149761	Active	6/29/2028
Air New Source Permits	Registration No. 158007	Active	n/a
Air New Source Permits	Registration No. 170943	Active	n/a
Air New Source Permits	Registration No. 173975	Active	n/a
Public Water System/Supply	Registration No. 2480014	Active	n/a
On-Site Sewage Facilities (Septic Systems)	Permit No. NOA WKP-14-17	Active	n/a
<u>Monahans Mine</u>			
Aggregate Production Operation	Registration No. AP0002804	Active	8/29/2024
Air New Source Permits	Permit No. 150399	Active	6/29/2028
Air New Source Permits	Registration No. 148572	Active	n/a
Air New Source Permits	Registration No. 158008	Active	n/a
Air New Source Permits	Registration No. 170944	Active	n/a
Air New Source Permits	Registration No. 173976	Active	n/a
Public Water System/Supply	Registration No. 2480015	Active	n/a
On-Site Sewage Facilities (Septic Systems)	Permit No. NOA WKP-14-17	Active	n/a

BOYD reviewed the permits necessary to support continued operations at Kermit and Monahans. Such required permits appear to be valid and in good standing. The approved permits and certifications are adequate for the continued operation of the mining and processing facilities. New permits, permit revisions, and/or renewals may be necessary from time to time to facilitate future operations. Given sufficient time and planning, Atlas should be able to secure new permits, as required, to maintain its planned operations within the context of current regulations.

13.2. Environmental Studies

It is BOYD's understanding that no standalone environmental studies have been conducted for the Kermit or Monahans operations. As part of the state and federal permitting process, various environmental assessments have been conducted and reviewed by the relevant local, state, and federal agencies. As the necessary permits for mining and processing operations have been issued, it is BOYD's understanding that all environmental assessments have been accepted by the relevant regulatory bodies and no material issues were found.

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13.3.Waste Disposal and Water Management

The coarse refuse generated from the sand processing operations is stockpiled and used in the construction of impoundment or backfilled into dredge ponds or previously mined pits. The fine refuse generated from the sand processing operations is disposed of by pumping it into dredge or impoundment ponds. Waste disposal facilities are in place for current mining operations, with plans to expand the disposal facilities to meet life of reserve storage requirements.

Water control structures are in place and function as required by regulatory agencies.

13.4.Compliance

The Kermit and Monahans operations are regulated by TCEQ on matters involving air and water pollution and inspected periodically by the state if issues arise.

Mine safety is regulated by the federal government by MSHA as are all surface mining operations. MSHA inspects the facilities a minimum of twice yearly. Atlas's safety record compares favorably with its regional peers. Atlas's safety record compares favorably with its regional peers.

Based on our review of information provided by Atlas and available public information, it is BOYD's opinion that the Kermit and Monahans operations' record of compliance with applicable mining, water quality, and environmental regulations is generally typical for that of the industry. BOYD is not aware of any regulatory violation or compliance issue which would materially impact the estimated frac sand reserves for either operation.

13.5.Plans, Negotiations, or Agreements

New permits and certain permit amendments/revisions require public notification. The public is made aware of pending permits by advertisement in local newspapers. Additionally, a copy of the application is retained at the local county's public library for review. A comment period follows the last advertisement date to allow the public to submit comments to the regulatory authority.

BOYD is not aware of any community or stakeholder concerns, impacts, negotiations, or agreements which would materially impact the frac sand reserve estimates contained herein.

13.6.Post-Mining Land Use and Reclamation

Under current regulations, the State of Texas does not require reclamation or remediation of surface mined lands by aggregate (including frac sand) operations. While there are no formal state or federal reclamation obligations, the leased portions of the Monahans property have defined reclamation requirements for post mining land use. An excerpt from the lease document pertaining to these requirements is as follows:

JOHN T. BOYD COMPANY

Maintenance, Security, and Restoration of the Leased Premises.

(a) Lessee shall maintain the Leased Premises in a neat and orderly condition, free of loose trash and debris, and in keeping with industry standard practices in the sand mining industry. Lessee shall construct and maintain all roads constructed and/or used by Lessee in "all weather" condition such that they are capable of normal use by Lessee and others without significant damage during inclement weather.

(b) To the extent deemed necessary by Lessor, Lessee shall construct and maintain a fence around the perimeter of Lessee's facility (or portions thereof, as set forth in written notice to Lessee) in order to protect livestock belonging to Lessor's grazing tenant(s). Such fences shall be constructed within ninety (90) days after written notice to Lessee. Lessee is solely responsible for the security of Lessee's facility and improvements, but shall provide keys, lock combinations or access cards to Lessor as necessary for Lessor to access Lessee's facility and all parts of the Leased Premises. Lessor may visit the Leased Premises at any time, but will provide at least forty-eight (48) hours' verbal notice to Lessee's on site manager before entering Lessee's gated processing facility.

(c) Lessee shall, within six (6) months after termination of this Lease for any reason, remove all equipment, structures, and other improvements placed by Lessee on the Leased Premises during the Term (including, without limitation, any pipelines), other than any supports placed in openings, any timbers, framework, or fences necessary to the use and maintenance of openings, approaches to operating pit, or dikes, water level control structures, and roads. Lessee further agrees with respect to any Materials stored or stockpiled on unmined portions of the Leased Premises to level such Materials. Notwithstanding the foregoing, after any termination of this Lease, Lessee may, for a period not to exceed six (6) months, and for no additional consideration, store on any unmined portions of the Leased Premises, any equipment and other Materials. Notwithstanding the foregoing, Lessee shall have the right at any time during the Term, or within six (6) months after the expiration of this Lease, to remove any improvements, structures, fixtures, machinery, equipment, supplies and other property and Materials placed by Lessee in, on or under the Leased Premises.

Additionally, Atlas voluntarily participates in a CCAA for the DSL. This mitigates DSL regulatory risk for the mining operations. Atlas has the option to either set aside acreage for the DSL habitat or contribute cash based on the acreage within the habitat area. Atlas has significant acreage without sand reserves to set aside for this purpose and can continue mining based on the agreement. The CCAA lasts for 23 years starting in January 2021.

13.7. Local Procurement and Hiring

BOYD is not aware of any commitments for local procurement or hiring. Atlas reports making efforts to source supplies and materials from regional vendors. The workforce is likewise located in the regional area.

Atlas's stated core values include making positive impacts in the communities in which it operates. In addition to the payment of income taxes and other local community taxes such as property taxes and royalties, Atlas supports, financially and otherwise, local community endeavors.

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14.0 INTERPRETATION AND CONCLUSIONS

14.1 Findings

Based on our independent technical review and geoscientific study of the Kermit and Monahans mines, BOYD concludes:

- Sufficient data have been obtained through the site exploration and sampling program and mining operations to support the geological interpretations of deposit thickness, grain size distribution and API quality for the portions of the sand underlying the controlled property of the subject mining operations. The data are of sufficient quantity and reliability to reasonably support the sand resource and sand reserve estimates in this technical report summary.
- BOYD is of the opinion that our data validation efforts: (1) adequately confirm the reasonableness of the geologic interpretations, resource estimation criteria, and economic assumptions; and (2) support the use of the data in frac sand resource/reserve estimation.
- The 337.6 million and 150.5 million product tons of frac sand reserves (as of December 31, 2023) estimated for the Kermit Mines and Monahans Mine, respectively, are reasonably and appropriately supported by technical studies, which consider expected geologic conditions, planned mining and processing operations, forecasted product revenues, and operating and capital cost estimates. As such, BOYD is of the opinion that there are reasonable expectations that the stated frac sand reserves for the Kermit and Monahans mines are technically, economically, and legally extractable as of December 31, 2023.
- To our knowledge, there are no other relevant data or information material to the Kermit or Monahans mines that would materially impact or change this technical report summary.

14.2 Significant Risks and Uncertainties

The ability of Atlas, or any mining company, to achieve production and financial projections is dependent on numerous factors. These factors primarily include site-specific geological conditions, the capabilities of management and operational personnel, product sales prices and market conditions, environmental issues, securing permit renewals and bonds, and developing and operating mines in a safe and efficient manner. Unforeseen changes in legislation and new industry developments could substantially alter the performance of any mining company. It is our understanding that Atlas continuously assesses these factors and adjusts operating plans as a matter of course.

As mining operations with established histories of commercial success, there is a high degree of certainty for the Kermit and Monahans operations under the current and foreseeable operating environment. However, it should be noted that frac sand is generally marketed exclusively to the energy sector which has historically faced more volatility than many other industries.

Subject specific assessments of risk are presented in the relevant sections of this report.

14.3 Recommendations

Based on the status of the Kermit and Monahans operations, BOYD has no recommendations for additional work relevant to the subject frac sand reserves at this time.

Exhibit A

ATLAS ENERGY SOLUTIONS, INC.

Incentive-Based Compensation Clawback Policy

(this “Policy”)

Adopted by the Board of Directors (the “Board”) upon recommendation of the Compensation Committee of the Board (the “Committee”) on November 21, 2023.

1. Recoupment. If Atlas Energy Solutions Inc. (the “Company”) is required to prepare a Restatement, the Committee shall, unless determined to be Impracticable, take reasonably prompt action to recoup all Recoverable Compensation from any Covered Person. This Policy is in addition to (and not in lieu of) any right of repayment, forfeiture or off-set against any Covered Person that may be available under applicable law or otherwise (whether implemented prior to or after adoption of this Policy). The Committee may, in its sole discretion and in the exercise of its business judgment, determine whether and to what extent additional action is appropriate to address the circumstances surrounding any recovery of Recoverable Compensation tied to a Restatement and to impose such other discipline as it deems appropriate.

2. Method of Recoupment. Subject to applicable law, the Committee may seek to recoup Recoverable Compensation by (i) requiring a Covered Person to repay such amount to the Company; (ii) offsetting a Covered Person’s other compensation; or (iii) such other means or combination of means as the Committee, in its sole discretion, determines to be appropriate. To the extent that a Covered Person fails to repay all Recoverable Compensation to the Company as determined pursuant to this Policy, the Company shall take all actions reasonable and appropriate to recover such amount, subject to applicable law. The applicable Covered Person shall be required to reimburse the Company for any and all expenses reasonably incurred (including legal fees) by the Company in recovering such amount.

3. Administration of Policy. The Committee shall have full authority to administer, amend or terminate this Policy. The Committee shall, subject to the provisions of this Policy, make such determinations and interpretations and take such actions in connection with this Policy as it deems necessary, appropriate or advisable. All determinations and interpretations made by the Committee shall be final, binding and conclusive. Notwithstanding anything in this Section 3 to the contrary, no amendment or termination of this Policy shall be effective if such amendment or termination would (after taking into account any actions taken by the Company contemporaneously with such amendment or termination) cause the Company to violate any federal securities laws, rules of the U.S. Securities and Exchange Commission (the “SEC”) or the rules of any national securities exchange or national securities association on which the Company’s securities are then listed. The Committee shall consult with the Company’s Audit Committee, Chief Financial Officer and General Counsel, as applicable, as needed in order to properly administer and interpret any provision of this Policy.

4. Acknowledgement by Executive Officers. The Committee may provide notice to and seek written acknowledgement of this Policy from each Executive Officer; provided that the failure to provide such notice or obtain such acknowledgement shall not affect the applicability or enforceability of this Policy.

5. No Indemnification. Notwithstanding the terms of any of the Company’s organizational documents, any corporate policy or any contract, the Company shall not indemnify any Covered Person against the loss of any Recoverable Compensation.

6. Disclosures and Record Keeping. The Company shall make all disclosures and filings with respect to this Policy and maintain all documents and records that are required by the applicable rules and forms of the SEC (including, without limitation, Rule 10D-1 under the Securities Exchange Act of 1934 (the “**Exchange Act**”)) and any applicable exchange listing standard.

7. Governing Law. The validity, construction, and effect of this Policy and any determinations relating to this Policy shall be construed in accordance with the laws of the State of Delaware without regard to its conflicts of laws principles.

8. Successors. This Policy shall be binding and enforceable against all Covered Persons and their beneficiaries, heirs, executors, administrators or other legal representatives.

9. Definitions. In addition to terms otherwise defined in this Policy, the following terms, when used in this Policy, shall have the following meanings:

“**Applicable Period**” means the three completed fiscal years preceding the earlier of: (i) the date that the Committee, or the officer or officers of the Company authorized to take such action if Committee action is not required, concludes, or reasonably should have concluded, that the Company is required to prepare a Restatement; or (ii) the date a court, regulator, or other legally authorized body directs the Company to prepare a Restatement. The Applicable Period shall also include any transition period (that results from a change in the Company’s fiscal year) of less than nine months within or immediately following the three completed fiscal years. For purposes of this Policy, the Committee shall be deemed to have reasonably concluded that a Restatement is required on the date that the Company’s Audit Committee or the Company’s Chief Accounting Officer, as applicable, informs the Committee in writing that such a Restatement will be required, unless the Audit Committee informs the Committee that an alternative date is more accurate for purposes of determining the Applicable Period.

“**Covered Person**” means any person who receives Recoverable Compensation.

“**Executive Officer**” includes the Company’s president, principal financial officer, principal accounting officer (or if there is no such accounting officer, the controller), any vice-president of the Company in charge of a principal business unit, division, or function (such as sales, administration, or finance), any other officer who performs a policy-making function, or any other person (including any executive officer of the Company’s controlled affiliates) who performs similar policy-making functions for the Company, and such other senior executives/employees who may from time to time be deemed subject to this Policy by the Committee.

“**Financial Reporting Measure**” means a measure that is determined and presented in accordance with the accounting principles used in preparing the Company’s financial statements (including “non- GAAP” financial measures, such as those appearing in earnings releases), and any measure that is derived wholly or in part from such measure. Stock price and total shareholder return (“**TSR**”) are Financial Reporting Measures. Examples of additional Financial Reporting Measures include measures based on: revenues, net income, operating income, financial ratios, EBITDA, liquidity measures, return measures (such as return on assets) and profitability.

“Impracticable” means, after exercising a normal due process review of all the relevant facts and circumstances and taking all steps required by Exchange Act Rule 10D-1 and any applicable exchange listing standard, the Committee determines that recovery of the Incentive-Based Compensation is impracticable because: (i) it has determined that the direct expense that the Company would pay to a third party to assist in recovering the Incentive-Based Compensation would exceed the amount to be recovered; (ii) it has concluded that the recovery of the Incentive-Based Compensation would violate home country law adopted prior to November 28, 2022; or (iii) it has determined that the recovery of Incentive-Based Compensation would cause a tax-qualified retirement plan, under which benefits are broadly available to the Company’s employees, to fail to meet the requirements of 26 U.S.C. 401(a)(13) or 26 U.S.C. 411(a) and regulations thereunder.

“Incentive-Based Compensation” includes any compensation that is granted, earned, or vested based wholly or in part upon the attainment of a Financial Reporting Measure; however it does not include: (i) base salaries; (ii) discretionary cash bonuses; (iii) awards (either cash or equity) that are based upon subjective, strategic or operational standards; and (iv) equity awards that vest solely on the passage of time.

“Received” Incentive-Based Compensation is deemed “Received” in any Company fiscal period during which the Financial Reporting Measure specified in the Incentive-Based Compensation award is attained, even if the payment or grant of the Incentive-Based Compensation occurs after the end of that period.

“Recoverable Compensation” means all Incentive-Based Compensation (calculated on a pre-tax basis) Received after October 2, 2023 by a person: (i) after beginning service as an Executive Officer; (ii) who served as an Executive Officer at any time during the performance period for that Incentive-Based Compensation; (iii) while the Company had a class of securities listed on a national securities exchange or national securities association; and (iv) during the Applicable Period, that exceeded the amount of Incentive-Based Compensation that otherwise would have been Received had the amount been determined based on the Financial Reporting Measures, as reflected in the Restatement. With respect to Incentive- Based Compensation based on stock price or TSR, when the amount of erroneously awarded compensation is not subject to mathematical recalculation directly from the information in a Restatement, the amount must be based on a reasonable estimate of the effect of the Restatement on the stock price or TSR upon which the Incentive-Based Compensation was received.

“Restatement” means an accounting restatement of any of the Company’s financial statements due to the Company’s material noncompliance with any financial reporting requirement under U.S. securities laws, including any required accounting restatement to correct an error in previously issued financial statements that is material to the previously issued financial statements (often referred to as a “Big R” restatement), or that would result in a material misstatement if the error were corrected in the current period or left uncorrected in the current period (often referred to as a “little r” restatement). As of the effective date of this Policy (but subject to changes that may occur in accounting principles and rules following the effective date), a Restatement does not include situations in which financial statement changes did not result from material non-compliance with financial reporting requirements, such as, but not limited to retrospective: (i) application of a change in accounting principles; (ii) revision to reportable segment information due to a change in the structure of the Company’s internal organization; (iii) reclassification due to a discontinued operation; (iv) application of a change in reporting entity, such as from a reorganization of entities under common control; (v) adjustment to provision amounts in connection with a prior business combination; and (vi) revision for stock splits, stock dividends, reverse stock splits or other changes in capital structure.

