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, 2022

 \square Transition report pursuant to section 13 or 15(d) of the securities exchange act of 1934 For the transition period from

Commission file number: 001-38071

NCS Multistage Holdings, Inc.

Delaware	46-1527455
(State or other jurisdiction of	(IRS Employer
incorporation or organization)	Identification number)
19350 State Highway 249, Suite 600	
Houston, Texas	77070
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: (281) 453-2222

Title of each class Common Stock, \$0.01 par value Securities registered pursuant to Section 12(b) of the Act: Trading Symbol(s)
NCSM

Name of each exchange on which registered Nasdaq Capital Market

Securities registered pursuant to section 12(g) of the Act: None Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes 🗖 No 🗷

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

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 Z

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 nit 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 Non-accelerated filer 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 Act). Yes 🗖 No 🗹

As of June 30, 2022, the aggregate market value of the common stock of the registrant held by non-affiliates of the registrant was approximately \$20.9 million (based on the closing sale price of the registrant's common stock on that date).

As of March 3, 2023, there were 2,438,877 shares of common stock outstanding.

Portions of the definitive proxy statement for the registrant's 2023 Annual Meeting of Stockholders are incorporated by reference in Part III of this Form 10-K. Such proxy statement will be filed with the Securities and Exchange Commission not later than 120 days after December 31, 2022.

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CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K (this "Form 10-K") includes certain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements can be identified by words such as "anticipates," "intends," "plans," "seeks," "believes," "estimates," "expects" and similar references to future periods, or by the inclusion of forecasts or projections. Examples of forward-looking statements include, but are not limited to, statements we make regarding the outlook for our future business and financial performance, such as those contained in Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations"

Forward-looking statements are based on our current expectations and assumptions regarding our business, the economy and other future conditions. Because forward-looking statements relate to the future, by their nature, they are subject to inherent uncertainties, risks and changes in circumstances that are difficult to predict. As a result, our actual results may differ materially from those contemplated by the forward-looking statements. Important factors that could cause our actual results to differ materially from those in the forward-looking statements include regional, national or global political, economic, business, competitive, market and regulatory conditions and the following:

declines in the level of oil and natural gas exploration and production ("E&P") activity in Canada, the United States and internationally;

oil and natural gas price fluctuations:

significant competition for our products and services that results in pricing pressures, reduced sales, or reduced market share;

our inability to successfully develop and implement new technologies, products and services that align with the needs of our customers, including addressing the shift to more non-traditional energy markets as part of the energy transition;

inability to successfully implement our strategy of increasing sales of products and services into the U.S. and international markets;

loss of significant customers:

our inability to protect and maintain critical intellectual property assets;

losses and liabilities from uninsured or underinsured business activities;

our failure to identify and consummate potential acquisitions;

our inability to integrate or realize the expected benefits from acquisitions;

loss of any of our key suppliers or significant disruptions negatively impacting our supply chain;

our inability to achieve suitable price increases to offset the impacts of cost inflation;

risks in attracting and retaining qualified employees and key personnel or related to labor cost inflation;

risks resulting from the operations of our joint venture arrangement;

currency exchange rate fluctuations;

impact of severe weather conditions;

restrictions on the availability of our customers to obtain water essential to the drilling and hydraulic fracturing processes;

changes in legislation or regulation governing the oil and natural gas industry, including restrictions on emissions of greenhouse gases ("GHGs");

our inability to meet regulatory requirements for use of certain chemicals by our tracer diagnostics business;

change in trade policy, including the impact of tariffs;

our inability to accurately predict customer demand, which may result in us holding excess or obsolete inventory;

failure to comply with or changes to federal, state and local and non-U.S. laws and other regulations, including anti-corruption and environmental regulations, guidelines and regulations for the use of explosives;

the financial health of our customers including their ability to pay for products or services provided;

loss of our information and computer systems;

system interruptions or failures, including complications with our enterprise resource planning system ("ERP"), cyber security breaches, identity theft or other disruptions that could compromise our information; impairment in the carrying value of long-lived assets including goodwill;

our failure to establish and maintain effective internal control over financial reporting;

the reduction in our asset-based revolving credit facility ("ABL Facility") borrowing base or our inability to comply with the covenants in our debt agreements; and our inability to obtain sufficient liquidity on reasonable terms, or at all.

See Item 1A. "Risk Factors" and Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations" of this Form 10-K for a further description of these and other factors that could cause actual results to differ materially from those in the forward-looking statements. For the reasons described above, we caution you against relying on any forward-looking statements, which should also be read in conjunction with the other cautionary statements that are included elsewhere in this Form 10-K. Any forward-looking statement made by us in this Form 10-K speaks only as of the date on which we make it. Factors or events that could cause our actual results to differ may emerge from time to time, and it is not possible for us to predict all of them. We undertake no obligation to publicly update or revise any forward-looking statement, whether as a result of new information, future developments or otherwise, except as may be required by law.

Trademarks and Trade Names

We own or have the rights to use various trademarks, service marks and trade names referred to in this Form 10-K, including, among others, AirLock, MultiCycle, OST, Innovus, Terrus, Ratek, Vecturon, Vectraset, PurpleSeal, PurpleFire, Repeat Precision and NCS and their respective logos. Solely for convenience, we refer to trademarks, service marks and trade names in this Form 10-K without the TM, SM and ® symbols. Such references are not intended to indicate, in any way, that we will not assert, to the fullest extent permitted by law, our rights to our trademarks, service marks and trade names. Third party trademarks, service marks or trade names appearing in this Form 10-K are the property of their respective owners.

Available information

Our website address is www.ncsmultistage.com. Information that we furnish to or file with the Securities and Exchange Commission (the "SEC"), including our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, proxy statements, and any amendments to, or exhibits included in, those reports or statements are available for download, free of charge, on our website as soon as reasonably practicable after such materials are filed with or furnished to the SEC. From time to time, we also post announcements, updates, events, investor information and presentations on our website at http://ir.ncsmultistage.com in addition to copies of all recent press releases as means of disclosing material non-public information and for complying with our fieldsolsure obligations under Regulation FD. Reports and statements that we file with or furnish to the SEC, including related exhibits, are also available on the SEC's website at www.sec.gov. The contents of the websites referred to above are not incorporated into this filing. References to the URLs for these websites are intended to be inactive textual references only.

PART I

Item 1. Business

Overview

NCS Multistage Holdings, Inc. ("NCS." the "Company," "we," "our" or "us") is a leading provider of highly engineered products and support services that facilitate the optimization of oil and natural gas well construction, well completions and field development strategies. We provide our products and services primarily to E&P companies for use in onshore and offshore wells, predominantly wells that have been drilled with horizontal laterals in both unconventional and conventional oil and natural gas for matural gas for the search and the vorth America and in selected international markets, including Argentina, China, the Middle East and the North Sea. Our extensive research and development efforts are influenced and driven by the needs of our customers, allowing us to introduce innovative and commercial solutions that improve customer efficiency and profitability. We provided our products and services to over 245 customers in 2022, including leading large independent oil and natural gas companies and major oil companies.

Our primary offering is our fracturing systems products and services, which enable efficient pinpoint stimulation: the process of individually stimulating each entry point into a formation targeted by an oil or natural gas well. We began providing pinpoint stimulation products and services in 2006 and our fracturing systems products and services are typically utilized in cemented wellbores and enable our customers to precisely place stimulation treatments in a more controlled and repeatable manner as compared with traditional completion techniques. Fracturing systems products and services include our casing-installed sliding sleeves and downhole frac isolation assembly. Customers typically purchase our casing-installed sliding sleeves, a consumable product that is cemented at intervals into the casing of the wellbore and can also utilize our services, in which our personnel supervise the use of our downhole frac isolation assembly during completion operations. Our fracturing systems products and services are utilized in conjunction with third-party providers of pressure pumping, coiled tubing and other services.

We offer enhanced recovery systems, which enable our customers to inject water, other fluids, or gases in a controlled manner with the objective of increasing the amount of hydrocarbons produced from their assets.

We own a 50% controlling interest in Repeat Precision, LLC ("Repeat Precision"), which we consolidate. Repeat Precision sells composite frac plugs, perforating guns and related products directly to customers and provides high-quality machining services for NCS products.

We provide tracer diagnostics services for well completion and reservoir characterization that utilize downhole chemical and radioactive tracers. Our customers utilize these services to better characterize their assets and to optimize completion designs. Chemical and radioactive tracer studies may provide a cost-effective and reliable means to determine the production profile along a lateral, assess fluid and proppant communication between wells during completions and determine the efficiency of completion designs at the stage and cluster level.

We sell products for well construction, including our casing buoyancy systems, liner hanger systems and toe initiation sleeves. Our customers utilize these products to safely and efficiently install casing and production liners, facilitate cementing operations and initiate a flow path into the formation at the commencement of stimulation operations.

Our revenue for the years ended December 31, 2022 and 2021 totaled \$155.6 million and \$118.5 million, respectively. Our net loss attributable to NCS Multistage Holdings, Inc. for the years ended December 31, 2022 and 2021 totaled \$(1.1) million and \$(4.7) million, respectively. Our total assets as of December 31, 2022 and 2021 totaled \$138.6 million and \$142.3 million, respectively. For additional financial information by geographic area, see "Note 17. Segment and Geographic Information" of our consolidated financial statements.

Business Strategy

Our business strategy is to increase the adoption of our products and services in all geographies, to continue to be an innovator of technology and to create value for our stockholders. We intend to achieve these objectives by (i) pursuing disciplined organic growth and increasing our market share through adoption of our products and services in the United States, Canada and in select international markets, (ii) developing and introducing innovative technologies that are aligned with customer needs, (iii) maintaining financial strength and flexibility and (iv) selectively pursuing complementary mergers, acquisitions and joint ventures.

We have diversified our revenue base through this strategy, including the investment in Repeat Precision and the acquisition of Spectrum Tracer Services, LLC in 2017. In 2022, approximately 65% of our revenue was derived from fracturing systems products and services and enhanced oil recovery systems, approximately 15% was derived from Repeat Precision and approximately 10% was derived from each of our well construction products and tracer diagnostics services. This represents a more balanced portfolio, serving

a larger addressable market than in 2016, when over 90% of our revenue was derived from fracturing systems products and services, with the remainder from well construction products.

Products and Service

We provide highly engineered products and support services that facilitate the optimization of oil and natural gas well construction, well completions and field development strategies. Our key products and services include:

Fracturing Systems. Our fracturing systems products and services encompass our technology developed to enable efficient pinpoint stimulation, selective stage isolation and re-stimulation strategies. Pinpoint stimulation is the process of individually stimulating each entry point into an oil or natural gas formation. We believe that pinpoint stimulation provides benefits compared to traditional completion techniques. Our pinpoint stimulation solutions and refined field processes are designed to enable efficient, controlled, verifiable, and repeatable completions. Some of our products can also be utilized later in a well's life to allow for selective stage isolation or to enhance injection efficiencies if the well is converted from a production well to an injection well.

Our fracturing systems products and services are comprised of our casing-installed sliding sleeves and our downhole frac isolation assemblies, which are typically deployed using coiled tubing and can also be deployed on threaded pipe. Our services include operating the downhole frac isolation assemblies and advising customers on optimizing completion designs and field efficiencies.

o Casing-installed sliding sleeves. Our casing-installed sliding sleeves are a consumable product, sold to our customers and integral to a well's casing. These sliding sleeves can be used in both cemented and open-hole wellbores in vertical, deviated or horizontal wells. There is no practical limitation on the number of sleeves that can be installed in a well, and all sleeves have an inner diameter that is similar to the casing in the wellbore. Our primary model of sliding sleeves can be opened and closed multiple times throughout the life of a well. These closable sleeves provide our customers the benefit of additional completion or production options and the ability to better optimize a well's overall performance.

During completion operations, the downhole frac isolation assembly is located in the sleeve and the inner barrel of the sleeve is shifted down, exposing the frac ports to the formation, allowing the stimulation of that stage to begin. Regarding our closable sleeves, the inner barrel can be shifted up to re-isolate the frac ports. These sleeves can often be re-opened or re-closed at any time, allowing our customers to selectively access or isolate segments of the wellbore. Several generations of sliding sleeves have been developed over the years, each providing improvements in functionality and reliability.

- Innovus. The Innovus line of sliding sleeves is the current generation of our fracturing sleeves designed primarily for the onshore market. This line of sleeves comes in standard duty and heavy duty (high pressure and high rate) models.
- Ratek. The Ratek line of sliding sleeves has been commercialized for more stringent environments, including high torque, high burst and collapse, and high compression environments, features that are required for many offshore applications. We offer Ratek sleeves with ISO V0 and V3 ratings.
- O Downhole frac isolation assembly. Our proprietary downhole frac isolation assembly is comprised of several components, including a resettable bridge plug for stage isolation, a sleeve locator to efficiently locate our sliding sleeves in the wellbore, an optional abrasive perforating sub that can create additional perforations in the casing, and gauge packages that can measure and record downhole data. The assembly tool, which is attached to a third-party threaded pipe, is primarily used to locate and shift our sliding sleeves open or closed. The systems provide real time-downhole pressure measurements as well as recorded pressure temperature and force measurements. We typically utilize the assemblies in our service to our customers and do not sell them. Our personnel operate the assemblies in coordination with other on-site service providers.
- O Sand jet perforating. Our sand jet perforating technology was part of the first NCS frac isolation assembly used for pinpoint stimulation. To cut access points into the formation, sand-laden fluid is pumped down the coiled tubing and through tungsten-carbide nozzles in the frac isolation assembly. The high-velocity slurry cuts a tunnel through the easing and cement and into the formation. The tunnels serve as access points for stimulation. Stimulation treatments are pumped down the annulus between the coiled tubing and the easing. This technology provides a practical option for pinpoint stimulation in wells that are already cased, such as for drilled, but uncompleted ("DUC") wells.

Enhanced Recovery. Our Enhanced Recovery product line evolved as an extension of our experience with fracturing systems, featuring a series of injection control devices to deliver fluid at a predetermined rate to selected stages along the wellbore. This product line includes valve systems to extend the life of a well by conversion from primary hydrocarbon production operations to enhanced recovery operations such as waterflood or gas injection.

- o Innovus Convertible. This sliding sleeve is a dual barrel version of our Innovus sleeve. Following the initial fracturing and production phase, a second inner barrel can be shifted to convert the frac ports to flow paths utilized to control injection. Water or gas can then be selectively injected into the reservoir at a predetermined rate suitable for enhanced recovery operations, extending the useful life of the original completion.
- o Terrus System. This system includes injection control devices with customizable flow rates that can be assembled into various configurations and deployed between isolation devices to create a customized water or gas injection string for installation in existing wells.

Repeat Precision. Repeat Precision sells its high-performance Purple Seal line of composite frac plugs and bridge plugs, RP single-use disposable setting tools, Purple Seal Express systems that combine a Purple Seal Frac Plug with a single-use disposable setting tool, and related products directly to E&P companies. Repeat Precision began selling PurpleFire perforating guns, devices utilized to perforate a well's casing, in late 2021. The entry into perforating guns expands Repeat Precision's addressable market and compliments its existing completion tool technologies. Repeat Precision sells perforating guns to other oilfield services companies that act as distributors and convey the tools downhole for E&P companies. Repeat Precision also provides high-quality machining services for certain NCS products.

Tracer Diagnostics. We provide chemical and radioactive tracer diagnostics services used by our customers to assess wellbore clearance, completion performance, well production and well-to-well communication. Our technology includes fracture fluid identifier tracers ("FFIS"), particulate water-soluble tracers ("WSTS"), particulate oil-soluble tracers ("OSTs") and reservoir natural gas tracers ("RGTs"), which enable efficient, cost-effective downhole diagnostics, providing E&P companies with critical data to better optimize field and reservoir development and production/injection performance.

Well Construction. Our well construction products are designed to allow our customers to safely and efficiently install casing and production liners, facilitate cementing operations and initiate a flow path into the formation at the commencement of stimulation operations.

- AirLock casing buoyancy system. Our AirLock casing buoyancy system facilitates landing casing strings in horizontal wells to the desired depth, while minimizing running time and surface hook-load. The AirLock assembly is installed in the casing string, allowing the vertical casing section to be filled with fluid, while the lateral section remains more air-filled. The air-filled segment significantly reduces sliding friction, while the weight of the vertical section provides the force to push the casing to depth. After the casing is landed, surface pressure is increased to release and shatter the glass or ceramic seal at a predetermined pressure, leaving an unrestricted casing bore.
- Vecturon and Vectraset liner hanger systems. Our proprietary and robust liner hanger systems are specifically designed to hang and seal the production liner in complex horizontal wells. Our liner hanger systems are fully compatible with our fracturing systems products. The liner hanger is used to distribute the weight of the liner to the supporting casing. The system can be set in the absence of a wiper plug bump.
- o Toe initiation sleeves. Our toe initiation sleeves are designed to provide initial formation access for multistage completions. After shifting open the toe initiation sleeve, a customer can perform a casing integrity test, a pre-frac injection fall-off test, flush the wellbore to facilitate the pumping of completion tools to the toe of the well or execute the first fracturing stage for the well.

Business History

We were incorporated in Delaware on November 28, 2012, under the name "Pioneer Super Holdings, Inc." On December 13, 2016, we changed our name to "NCS Multistage Holdings, Inc." On May 3, 2017, we completed the initial public offering of our common stock.

Intellectual Property and Patent Protection

We have dedicated resources to the development and acquisition of new technology and products designed to optimize well construction, well completions and field development strategies, primarily for use in onshore and offshore wells drilled with horizontal laterals in both unconventional and conventional oil and natural gas formations. Our sales and earnings are influenced by our ability to successfully introduce new or improved products to the North American and international markets. Our equipment and services involve proprietary technologies, some of which are protected by patents.

We hold 59 U.S. utility patents and 50 related international utility patents, which relate to various products and services from each of our product lines, such as our casing buoyancy systems, OSTs, casing installed sliding sleeves, frac isolation assemblies, frac plug setting tools and other equipment and methods utilized in the provision of our services. Our U.S. utility patents expire between 2030 and 2040. Our international utility patents expire between 2028 and 2037.

We also have a number of U.S. and international patent applications pending. Some of these patent applications cover equipment and methods which are currently in development. The applications are in various stages of the patent prosecution process and patents may not be issued on such applications in any jurisdiction for some time, if they are issued at all.

We believe that our patents have historically been important in enabling us to compete in the market to supply our customers with our products and services. We intend to enforce, and have in the past vigorously enforced, our intellectual property rights. We are currently and may from time to time in the future be involved in litigation to determine the enforceability, scope and validity of our patent rights. In addition to patent rights, we use a significant amount of trade secrets, or "know-how," and other proprietary information and technology as well as intellectual property licensed from third parties.

Customers

Our customer base primarily consists of oil and natural gas producers in North America and certain international markets as well as oilfield service companies. For the years ended December 31, 2022 and 2021, we had over 245 and 225 customers, respectively. Our five largest customers accounted for approximately 24% and 30% of our revenue for the years ended December 31, 2022 and 2021, respectively. No single customer represented more than 10% of our revenue for the years ended December 31, 2022 and 2021. Although we believe we have a broad customer base and wide geographic coverage of operations, the loss of one or more of our significant customers could have a material adverse effect on our results of operations. For additional information relating to risks regarding the loss of any of our significant customers, see Item 1A. "Risk Factors."

Sales and Marketing

Our sales and marketing activities are performed through a technically-trained sales force. We recognize the importance of a technical marketing program in demonstrating the advantages of new technologies that offer benefits relative to established industry methodologies. Our technical sales force advises customers on the benefits of pinpoint stimulation, Innovus and Ratek sliding sleeves, enhanced recovery systems, well construction products and tracer diagnostics services.

In the United States and Canada, sales of our fracturing systems products and services, enhanced recovery systems, liner hangers, toe initiation sleeves and tracer diagnostics services are made directly to E&P companies. Our customers also hire coiled tubing companies and pressure pumping services companies that work alongside us during the completion of a well. We provide our casing buoyancy systems directly to E&P companies as well as to oilfield services companies that act as distributors for this product. Although we do not typically maintain supply or service contracts with our customers, a significant portion of our sales represents recurring business. Repeat Precision, which maintains a sales force separate from NCS in the United States, sells its products directly to E&P companies as well as to oilfield services companies that act as distributors.

International sales are made through local NCS entities or to our local operating partners on a free on board or free carrier basis with a point of sale in the United States. Some of the locations in which we have operating partners or sales representatives include China and the Middle East. Our operating partners and representatives do not have authority to contractually bind our company, but market our products in their respective territories as part of their product or services offering.

We provide extensive support services and have developed proprietary methodologies for assessing and reporting the information that is collected on our downhole gauges and through tracer diagnostics evaluations.

In addition to the technical marketing effort, we occasionally engage in field trials to demonstrate the economic benefits of our products and services.

Seasonality

A substantial portion of our business is subject to quarterly variability. In Canada, we typically experience higher activity levels in the first quarter of each year, as our customers take advantage of the winter freeze to gain access to remote drilling and production areas. In the past, our revenue in Canada has declined during the second quarter due to warming weather conditions that result in thawing, softer ground, difficulty accessing well sites and road bans that curtail drilling and completion activity. Access to well sites typically improves throughout the third and fourth quarters in Canada, leading to activity levels that are higher than in the second quarter, but usually lower than activity in the first quarter. As we experienced in the fourth quarter of 2022, our business can be impacted by a reduction in customer activity during the winter holidays in late December and early January. In recent years, many customers in the United States and Canada exhausted their capital budgets prior to the end of the year, leading to reductions in drilling and completion activity during the fourth quarter.

Suppliers and Raw Materials

We acquire components, raw materials and parts from suppliers, including machine shops. The prices we pay for our raw materials may be affected by, among other things, energy, steel and other commodity prices, tariffs and duties on imported materials and foreign currency exchange rates. Most of the components, raw materials and parts that we use in our operations, such as steel in various forms, electronic components, chemicals and elastomers are available from many sources.

We generally try to purchase our components, raw materials and parts from multiple suppliers, so we are not dependent on any one supplier. We will generally utilize multiple machine shops for the manufacturing of our component parts so that we are not dependent on any one machine shop. In recent years, we have reduced our internal manufacturing capacity in an effort to reduce fixed costs and have relied more heavily on certain machine shops. Our suppliers are also active in multiple regions which allows us to react to changes in foreign currency exchange rates and tariffs and duties. For example, we have made changes to the suppliers of certain raw materials based on tariff rates. In addition, sourcing certain product categories from Repeat Precision allows us to reduce our costs.

The continuing impacts of the Coronavirus disease 2019 ("COVID-19") pandemic are contributing to occasional supply chain disruptions, particularly in China, and to cost inflation, including labor cost inflation. To address this, we have qualified additional vendors or materials in instances where availability has been impacted or for which delivery times have increased. See Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations" for more information.

Operating Risks and Insurance

We currently carry a variety of insurance for our operations. Although we believe we currently maintain insurance coverage adequate for the risks involved, there is a risk our insurance may not be sufficient to cover any particular loss or that our insurance may not cover all losses.

Competition

The markets in which we operate are highly competitive. To be successful, we must provide services and products that meet the specific needs of E&P companies at competitive prices. We compete in all areas of our operations with a number of companies, some of which have financial and other resources greater than or comparable to ours.

We believe that we compete not only against other providers of pinpoint stimulation equipment and services, but also with companies that support the other primary means of hydraulically fracturing a horizontal well, including plug and perf and ball drop completions. We also compete with other suppliers of well construction products, enhanced recovery systems, tracer diagnostics services, composite frac plugs and perforating guns.

Our major competitors for our completion products and services include Baker Hughes Company ("Baker Hughes"), Core Laboratories N.V., DMC Global Inc., Forum Energy Technologies, Inc., Halliburton Company, Innovex Downhole Solutions, Nine Energy Service, Inc., NOV Inc., Oil States International, Inc., Packers Plus Energy Services Inc., SLB, Schoeller-Bleckmann Oilfield Equipment AG and Weatherford International public limited company as well as a number of smaller or regional competitors.

We believe that the most significant factors influencing a customer's decision to utilize our equipment and services are technology, service quality, safety track record and price. While we must be competitive in our pricing, we believe our customers select our products and services based on the technical attributes of our products and equipment, the level of technical and operational service we provide before, during and after the job, and the know-how derived from our extensive operational track record.

Government Regulations

We are subject to stringent and complex federal, state, provincial 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. Compliance with these laws and regulations may require the acquisition of permits to conduct regulated activities, capital expenditures to prevent, limit or address emissions and discharges, and stringent practices to handle, recycle and dispose of certain wastes and materials. Failure to comply with these laws and regulations may result in the assessment of administrative, civil and criminal penalties, the imposition of remedial or corrective obligations, and the issuance of injunctive relief.

We believe that we are in substantial compliance with applicable environmental, health and safety laws and regulations. Further, we do not anticipate that compliance with existing environmental, health and safety laws and regulations will have a material effect on our consolidated financial statements. However, laws and regulations protecting the environment, health and safety generally have become more stringent in recent years and are expected to continue to do so. It is possible that we could incur substantial costs for compliance with applicable environmental, health and safety laws and regulations in the future. Moreover, it is possible that other

developments, such as the adoption of stricter environmental laws, regulations, and enforcement policies, could result in additional costs or liabilities that we cannot currently quantify.

While we do not anticipate that compliance with existing environmental, health and safety laws and regulations will have a material adverse effect on our operations, we and/or our customers are subject to a wide range of such laws and regulations, which could materially and adversely affect their businesses and indirectly, through reduced demand for our products and services, have a material adverse effect on our business, financial condition and results of operations, including with respect to the following:

Air Emissions. The Federal Clean Air Act (the "CAA") and comparable state laws regulate emissions of various air pollutants through air emissions permitting programs and the imposition of other emission control requirements. In addition, the Environmental Protection Agency ("EPA") has developed, and continues to develop, stringent regulations governing emissions of toxic air pollutants at specified sources. Non-compliance with air permits or other requirements of the CAA and associated state laws and regulations can result in the imposition of administrative, civil and criminal penalties, as well as the issuance of orders or injunctions limiting or prohibiting non-compliant operations.

Water Discharges. The Federal Clean Water Act (the "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 state waters or waters of the United States. The discharge of pollutants into regulated waters is prohibited, except in accordance with the terms of a permit issued by the EPA or an analogous state agency. 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.

Climate Change. Governmental and public concern over the threat of climate change arising from GHG emissions is giving rise to an increased likelihood of regulatory actions to address climate change in the United States and abroad. As a result, our customers are or may become subject to statutes or regulations aiming to reduce emissions of GHGs. In December 2009, the EPA determined that emissions of carbon dioxide, methane and other GHGs present an endangerment to public health and the environment because emissions of such gases are, according to the EPA, contributing to warming of the earth's atmosphere and other climatic changes. Based on these findings, the EPA has proposed regulations restricting emissions of GHGs under existing provisions of the CAA, including establishing New Source Performance Standards ("NSPS"), a set of uniform technology-based standards for new and modified sources of air pollution, that govern emissions of methane and volatile organic compounds from new and modified oil and natural gas development and production operations. EPA is also expected to issue NSPS for new gas-fired power plants and existing coal and gas power plants in March 2023. In addition, in November 2021, EPA issued a proposed rule and a corresponding supplemental proposal in November 2022, that would sharply reduce the emission of methane and other air pollutants from both new and existing sources in the oil and natural gas industry. The proposal would expand current emissions reduction requirements for new, modified and reconstructed oil and natural gas sources, and would require states to reduce methane emissions from hundreds of thousands of existing sources nationwide for the first time. Most recently, the Inflation Reduction Act of 2022 became law in August 2022, and aims to reduce GHGs, including carbon dioxide, by 40 percent by 2030. The Inflation Reduction Act provides billions of dollars in grants and loans designed to facilitate financing and deployment of renewable energy projects in the United States. Wh

Various U.S. states or groups of states have adopted or considered adopting legislation, regulations or other governmental actions focused on reducing GHG emissions, including cap and trade programs, carbon taxes, reporting and tracking initiatives and renewable portfolio standards. At the international level, the United States is a party to the United Nations-sponsored Paris Agreement, a non-binding agreement for nations to limit their GHG emissions through individually-determined reduction goals. Although it is not possible at this time to predict how any legal requirements imposed following the implementation of the Paris Agreement or otherwise that may be adopted or issued to address GHG emissions would impact our business or that of our customers, any such future laws, regulations or legal requirements imposing reporting or permitting obligations on, or limiting emissions of GHGs from, oil and natural gas exploration activities could require our customers to incur costs to reduce emissions of GHGs associated with their operations. In addition, substantial limitations on GHG emissions could adversely affect demand for the oil and natural gas our customers produce.

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 our customers generate. 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's less stringent non-hazardous waste provisions, state laws or other federal laws. It is possible, however, 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 a material adverse effect on our business.

Contamination. The Comprehensive Environmental Response, Compensation, and Liability Act, and comparable state laws, impose joint and several liability, without regard to fault or legality of conduct, on classes of persons who are considered to be responsible for the release of a hazardous substance into the environment. These persons include the owner or operator of the site where the release occurred, and anyone who disposed or arranged for the disposal of a hazardous substance released at the site. In addition, it is not uncommon for neighboring landowners and other third-parties to file claims for personal injury and property damage allegedly caused by hazardous substances released into the environment.

Occupational Health and Safety. We are subject to a number of federal and state laws and regulations, including the federal Occupational Safety and Health Act and comparable state statutes, establishing requirements to protect the health and safety of workers. Substantial fines and penalties can be imposed and orders or injunctions limiting or prohibiting certain operations may be issued in connection with any failure to comply with laws and regulations relating to worker health and safety.

Radioactive Materials. Part of our business involves the use of radioactive tracers, typically consisting of three standard isotopes (Iridium 192, Scandium 46 and Antimony 124), to help determine the existence of fractures within a well formation. The use of these materials requires us to obtain and comply with radioactive materials licenses issued by the U.S. Nuclear Regulatory Commission ("NRC") or its counterparts in the states where we perform these services if they are among the states to which the NRC has delegated its regulatory authority pursuant to the Atomic Energy Act (so-called "Agreement States"). Under the terms of these licenses, we are required to train designated personnel, maintain records, submit periodic reports, ensure the safety and reliability of related equipment and storage facilities, conduct radiation safety monitoring, and ensure the proper disposal of materials and equipment at the end of their useful lives. In the event we fail to adequately comply with these requirements, we could be subject to enforcement action, which could include fines, injunctive relief, or the revocation of our licenses.

In addition, the oil and natural gas industry is extensively regulated by numerous federal, state and local authorities, including with respect to permitting for the drilling of wells, drilling bonds and operations reporting. Legislation and regulation affecting the oil and natural gas industry is frequently under review for amendment or expansion, which can increase the regulatory burden. Failure to comply with laws and regulations can result in substantial fines and penalties. In addition, the effect of these regulations may be to limit or increase the cost of oil and natural gas E&P companies, which could have a material adverse effect on our customers and indirectly materially and adversely affect our business. Although changes to the regulatory burden on the oil and natural gas industry could affect the demand for our services, we would not expect to be affected any differently or to any greater or lesser extent than other companies in the industry with similar operations.

We supply equipment and services to customers in the oil and natural gas industry conducting hydraulic fracturing operations. Although we do not directly engage in hydraulic fracturing activities, our customers purchase our products and services for use in their 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. States could also elect to prohibit high volume hydraulic fracturing altogether, following the approach taken by the State of New York in 2015. In fact, California is taking steps to ban fracking on state-permitted lands in 2024. 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, the federal government can limit hydraulic fracturing activities on federal lands through permitting, including by limiting the amount of lands available to lease or increasing royalty rates. The current administration cancelled the construction permit for the Keystone XL oil pipeline, which would have transported Canadian oil to the Gulf Coast. We do not currently expect that the recent executive branch actions regarding leases on public land or the cancellation of the Keystone XL oil pipeline will have a material impact on our business in the short term. Various studies also have been conducted or are currently underway by the EPA, and other federal agencies concerning the potential environmental impacts of hydraulic fracturing and added for a possible connection between the operation of injection wells used for oil and natural gas was

to seismic activity. 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 prohibiting, limiting or otherwise regulating the hydraulic fracturing process could make it more difficult, or even impossible, 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 products and services. 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 products and services, have a material adverse effect on our business, financial condition and results of operations.

Employees

As of December 31, 2022, we had 262 employees of which 228 are full-time employees. As of such date, 145 of our employees were based in the United States, 107 were based in Canada and ten were based outside of North America. Our international operations, with the exception of our Argentinean and certain North Sea operations, are currently serviced by employees operating out of the United States and Canada. In addition, our consolidated joint venture, Repeat Precision, has 208 employees, 23 of which are based in the United States and 185 of which are based in Mexico. We are not a party to any collective bargaining agreements in North America, and we consider our relations with our employees to be good.

Item 1A. Risk Factors

Described below are certain risks that we believe apply to our business and the industry in which we operate. You should carefully consider each of the following risk factors in conjunction with other information provided in this Form 10-K and in our other public disclosures. The risks described below highlight potential events, trends or other circumstances that could adversely affect our business, financial condition, results of operations, cash flows, liquidity or access to sources of financing, and consequently, the market value of our common stock. Additional risks and uncertainties not currently known to us or that we currently deem immaterial may also materially adversely affect our business, financial condition and results of operations. All forward-looking statements made by us or on our behalf are qualified by the risks described below.

RISK FACTORS SUMMARY

You should carefully consider the information set forth below before deciding whether to invest in our securities. Below is a summary of material risks associated with an investment in our securities.

Risks Related to Our Business and the Oil and Natural Gas Industry

Our business depends on the levels of expenditures by companies in the oil and natural gas industry and particularly on the level of E&P activity within Canada, the United States and internationally.

The cyclicality of the oil and natural gas industry may cause our results of operations to fluctuate

Competition within our industry may adversely affect our ability to market our services

Our success depends on our ability to develop and implement new technologies, products and services that align with the needs of our customers, including addressing the shift to more non-traditional energy markets as part of the energy transition.

We may not be able to successfully implement our strategy of increasing sales of our products and services for use in basins located in the U.S. and international markets.

A single customer constituted 6% and 7% of our revenue for the years ended December 31, 2022 and 2021, respectively. The loss of any of our significant customers, or their failure to pay the amounts they owe us, could cause our revenue to decline substantially.

Advancements in drilling and well completion technologies and processes could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Our competitors may infringe upon, misappropriate, violate or challenge the validity or enforceability of our intellectual property and we may not be able to adequately protect or enforce our intellectual property rights in the future. We may be adversely affected by disputes regarding intellectual property rights.

The products and services we provide are used in operations that are subject to potential hazards inherent in the oil and natural gas industry, including claims for personal injury and property damage, and, as a result, we are exposed to potential liabilities that may affect our financial condition and reputation.

Losses and liabilities from operating activities could have a material adverse effect on our business, financial condition and results of operations.

Explosive incidents arising out of dangerous materials used in our business could disrupt operations and result in bodily injuries and property damages, which occurrences could have a material adverse effect on our business. financial condition and results of operations.

Low commodity price environments can negatively impact oil and natural gas E&P companies and, in some cases, impair their ability to timely pay for products or services provided or can result in their insolvency or bankruptcy, any of which exposes us to credit risk of our oil and natural gas E&P customers.

The growth of our business through acquisitions or strategic partnerships exposes us to various risks, including identifying suitable opportunities and integrating businesses, assets and personnel.

We may be adversely affected by the effects of inflation.

Disruptions or delays involving our suppliers or increases in prices for the components, raw materials and parts that we obtain from our suppliers could have a material adverse effect on our business and consolidated results of operations.

Our success may depend on the continued service and availability of key personnel.

We may be unable to attract and retain skilled and technically knowledgeable employees, which could adversely affect our business.

We conduct a portion of our operations through the Repeat Precision joint venture, which subjects us to additional risks that could adversely affect the success of these operations and the ability of Repeat Precision to make cash distributions to us, which could adversely impact our business, financial position and results of operations.

A significant amount of our revenue generated is denominated in the Canadian dollar ("CAD") and could be negatively impacted by currency fluctuations.

Our operations may be limited or disrupted in certain parts of the continental United States, Canada and the North Sea during severe weather conditions, which could have a material adverse effect on our business, financial condition and results of operations.

Hydraulic fracturing is substantially dependent on the availability of water. Restrictions on the ability of our customers to obtain water may have a material adverse effect on our business, financial condition and results of operations.

The adoption of climate change legislation or regulations restricting emissions of GHGs, and associated litigation, could result in increased compliance or operating costs, limit the areas in which our customers may conduct E&P activities, and reduce demand for oil and natural gas.

Federal and state legislative and regulatory initiatives relating to hydraulic fracturing could result in increased costs and additional operating restrictions or delays on our customers, which could in turn decrease the demand for our products and services.

Restrictions on drilling activities intended to protect certain species of wildlife may adversely affect the ability of our customers to conduct drilling activities in some of the areas where we operate.

We may not be able to meet applicable regulatory requirements for our use of certain chemicals by our tracer diagnostics business, and, even if requirements are met, complying on an ongoing basis with the numerous regulatory requirements may be time-consuming and costly.

Our operations and our customers' operations are subject to a variety of governmental laws and regulations that may increase our costs, limit the demand for our products and services or restrict our operations.

If we are unable to accurately predict customer demand or if customers cancel their orders on short notice, we may hold excess or obsolete inventory, which would reduce gross margins. Conversely, insufficient inventory would result in lost revenue opportunities and potentially a loss in market share and damaged customer relationships.

We could be subject to additional income tax liabilities.

Loss of our information and computer systems could adversely affect our business.

We are subject to cyber security risks. A cyber incident could occur and result in information theft, data corruption, operational disruption and/or financial loss.

Impairment in the carrying value of long-lived assets including goodwill could negatively affect our operating results.

Our business operations in countries outside of the United States are subject to U.S. and non-U.S. federal laws and regulations, including restrictions imposed by the Foreign Corrupt Practices Act as well as trade sanctions administered by the Office of Foreign Assets Control ("OFAC") and the Commerce Department.

Risks Relating to Our Indebtedne

Our outstanding indebtedness could adversely affect our financial condition and our ability to operate our business, and we may not be able to generate sufficient cash flows to meet our debt service obligations

Restrictive covenants in the agreement governing our ABL Facility or other indebtedness may restrict our ability to pursue our business strategies.

Risks Relating to Ownership of Our Common Stock

We are controlled by the funds controlled by Advent International Corporation ("Advent"), whose interests may differ from those of our public stockholders.

Future sales of our common stock, or the perception in the public markets that these sales may occur, could cause the market price for our common stock to decline.

Anti-takeover protections in our amended and restated certificate of incorporation, our amended and restated bylaws or our contractual obligations may discourage or prevent a takeover of our company, even if an acquisition would be beneficial to our stockholders.

We are a "smaller reporting company" and have elected to comply with reduced reporting requirements, which could make our common stock less attractive to investors.

We may identify material weaknesses or otherwise fail to maintain an effective system of internal controls, which may result in material misstatements of our financial statements or cause to us to fail to meet our reporting obligations or fail to prevent fraud; which would harm our business and could negatively impact the price of our common stock.

Public and investor sentiment towards climate change, fossil fuels and other environmental, social and governance ("ESG") matters could adversely affect our cost of capital, availability of capital and the price of our common stock

Risks Related to Our Business and the Oil and Natural Gas Industry

Our business depends on the levels of expenditures by companies in the oil and natural gas industry and particularly on the level of E&P activity in Canada, the United States and internationally.

Demand for our products and services depends substantially on the level of expenditures by companies in the oil and natural gas industry. These expenditures are generally dependent on our customers' views of future conomic growth and the resulting impact on demand for oil and natural gas. Declines, as well as anticipated declines, in oil and natural gas prices and are sensitive to our customers' views of future economic growth and the resulting impact on demand for oil and natural gas. Declines, as well as anticipated declines, in oil and natural gas prices could result in project modifications, delays or cancellations, general business disruptions, and delays in payment of, or nonpayment of, amounts that are owed to us. In addition, more stable or higher commodity prices do not necessarily translate to a higher level of expenditures by companies in the oil and natural gas industry. For example, in recent years, investors in E&P companies have been prioritizing free cash flow and return of capital to shareholders over production growth, leading to lower expenditures. E&P companies require significant capital to drill and complete wells and it is becoming increasingly difficult for them to access capital. These trends may continue, even if commodity prices increase.

Many factors over which we have no control affect the supply of and demand for, and our customers' willingness to explore, develop and produce oil and natural gas, and therefore, influence demand levels and prices for our products and services, including:

the domestic and foreign 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 capital spending;

the cost of exploring for, developing, producing and delivering oil and natural gas, which may increase as a result of inflation in wages, materials, components, parts, equipment and other costs borne by suppliers to E&P companies:

the expected decline rates of current production;

the price and quantity of foreign imports:

political and economic conditions in oil producing countries, including the Middle East, Africa, South America and Russia;

the ability of members of OPEC and certain other countries, including Russia (informally known as "OPEC+") to agree to and maintain production controls to support oil prices;

the COVID-19 pandemic and related public health measures implemented by governments worldwide and any other regional or global health epidemics;

speculative trading in crude oil and natural gas derivative contracts;

the level of consumer product demand;

the discovery rates of new oil and natural gas reserves;

contractions in the credit market:

the strength or weakness of the United States dollar ("USD");

available pipeline and other transportation capacity;

the levels of oil and natural gas storage;

weather conditions and other natural disasters, including earthquakes, hurricanes and tornadoes;

political instability in oil and natural gas producing countries;

domestic and foreign tax policy;

domestic and foreign governmental approvals and regulatory requirements and conditions;

the continued threat of terrorism and the impact of military and other action, including military action in the Middle East or Ukraine;

technological advances affecting energy demand, generation and consumption;

the proximity and capacity of oil and natural gas pipelines and other transportation facilities;

alternative energy requirements or technological advances and the demand and availability of alternative energy sources;

energy conservation measures, including the increased focus by the investment community on sustainability practices in the oil and natural gas industry;

climate change legislation or regulations restricting emissions of greenhouse gases and related divestment and other efforts;

the ability of oil and natural gas producers to raise equity capital and debt financing;

interest rates and the cost of capital for E&P companies;

merger and divestiture activity among oil and natural gas producers; and

overall domestic and global economic conditions.

The oil and natural gas industry has historically experienced periodic reductions in the overall level of exploration and development activities in connection with declines in commodity prices. For example, in 2020 the COVID-19 pandemic materially reduced the demand for crude oil and natural gas, which led to a decline in commodity prices. The low commodity price environment resulted in a reduction in the drilling, completion and other production activities of most of our customers and a reduction in their spending on our products and services as well as the prices we were able to charge our customers. Although oil pricing has improved since mid-2020, it is uncertain whether commodity prices will maintain current levels, decline or increase. Furthermore, there has been an increased focus on alternative energy sources which would reduce the demand for crude oil and natural gas.

Inflationary factors, such as increases in the labor costs, material costs, and overhead costs, may result in an increase in E&P companies costs of exploring for, developing, producing and delivering oil and natural gas. These increased costs may make it less likely that E&P companies will do so. Starting in 2021, in connection with a global inflationary environment, E&P suppliers, including NCS, have faced substantial increases in costs. While oil and natural gas activity has continued to increase through 2021 and 2022, further inflationary cost increases could negatively impact E&P activity.

These factors and the volatility of the energy markets make it difficult to predict future oil and natural gas price movements with any certainty. Any of the above factors could impact the level of oil and natural gas E&P activity and could have a material adverse effect on our business, financial condition and results of operations. In addition, regardless of the macro commodity price environment, our current or prospective customers may experience certain constraints that disproportionately impact their business and reduce their expenditures. Also, should a low commodity price environment impact our customers' expenditures, we could encounter difficulties such as an inability to access needed capital on attractive terms or at all, the incurrence of impairment charges, a reduction in our borrowing capacity under our ABL Facility, a need to reduce our capital spending and other similar impacts, any of which could have a material adverse effect on our business, financial condition and results of operations.

The cyclicality of the oil and natural gas industry may cause our results of operations to fluctuate.

We derive our revenues from companies in the oil and natural gas E&P industry, a historically cyclical industry with activity significantly affected by the levels and volatility of oil and natural gas prices. These oil and natural gas prices historically have been extremely volatile and are expected to continue to be volatile. During the past five years, the posted West Texas Intermediate ("WTI") price for oil has ranged from a low of \$(36.98) per barrel, or Bbl, in April 2020 to a high of \$123.64 per Bbl in March 2022. Over the same period, the Henry Hub spot market price of natural gas has ranged from a low of \$1.33 per million British thermal units, or MMBtu, in September 2020 to a high of \$23.86 per MMBtu in February 2021. We have, and may in the future, experience significant fluctuations in operating results as a result of the reactions of our customers to changes in oil and natural gas prices. We have master services agreements ("MSAs") with most of our customers which have no minimum purchase requirements. As a result, a large portion of our customers are not obligated to buy our products or utilize our services for an extended period or at all.

Competition within our industry may adversely affect our ability to market our services.

The markets in which we operate are generally highly competitive. The principal competitive factors in our market are technology, service quality, safety track record and price. We compete with large national and multi-national companies that have substantially longer operating histories, greater financial, technical and other resources than we do. For instance, our larger competitors may offer services at below-market prices or bundle ancillary services at no additional cost to customers. Several of our competitors provide a broader array of services and have a stronger presence in more geographic markets. In addition, we compet with several smaller companies capable of competing effectively on a regional or local basis. These companies may be able to charge lower prices for competing products and services, particularly if a company maintains a lower cost structure by investing less in research and development activities. These products and services offered by lower-priced competitors may be more attractive to our customers in lower commodity price environments, even if the products or services offered are inferior. Also, our competitors may be able to respond more quickly to new or emerging technologies, products and services and changes in customer requirements. These responses may come from direct competitors who offer similar products or services or competitors who offer substitutes. In certain circumstances, work is awarded on a bid basis, which further increases competition based on price. Pricing is often the primary factor in determining which qualified contractor is awarded the work. Also, this competitive environment may make it difficult to commercialize new products and gain customer adoption.

The competitive environment may be further intensified when oil and gas companies reduce their expenditures, such as what occurred through 2020 in response to a lower commodity price environment, leading to excess capacity and additional pricing pressure. In addition, mergers and acquisitions among oil and natural gas companies that have the effect of reducing the number of available customers, and the greater focus on budgetary discipline and cash flows by oil and natural gas companies may make the environment more competitive. As a result of a combination of continued pressure from increased competition which began during the second half of 2018 and 2019 and decreased demand for our products and services in 2020 due to the COVID-19 pandemic, we had to lower the prices for our products and services, which adversely affected our business, financial condition and results of operation. This competitive market has made it difficult for us to increase the prices of our products and services as the oil and gas market has improved.

Also, we have experienced an inflationary increase in our costs which started in 2021 and the competitive market has made it difficult to increase prices to the extent, and at the pace, to which we experience increases in our costs. As a result of competition, we may lose market share or be unable to maintain or increase prices for our current products or services or to acquire additional business opportunities, which could have a material adverse effect on our business, financial condition and results of operations.

Our success depends on our ability to develop and implement new technologies, products and services that align with the needs of our customers, including addressing the shift to more non-traditional energy markets as part of the energy transition.

Our success depends on the ongoing development and implementation of new product designs and improvements, and on our ability to protect and maintain critical intellectual property assets related to these developments. If we are unable to continue to develop and produce competitive technology or deliver it to our clients in a timely and cost-competitive manner in the various markets we serve, it could have a material adverse effect on our business, financial condition and results of operations. Also, if we are not able to obtain patent or other intellectual property protection of our technology, we may not be able to recoup development costs or fully

exploit systems, services and technologies in a manner that allows us to meet evolving industry requirements at prices acceptable to our customers. In addition, some of our competitors are large national and multinational companies that may be able to devote greater financial, technical, manufacturing and marketing resources to research and development of new systems, services and technologies than we are able to do.

Some of our customers are making investments in non-traditional energy markets as part of the energy transition. As a result, we may be unable to supply our traditional oil and gas products to these customers if we do not develop new technology that meets their changing needs. Therefore, to counteract these pressures, any reduced spending or decreased demand for traditional energy products will need to be offset at the same or greater pace by sales to other customers or increased sales of renewable energy technologies that we develop. If we are not successful in offsetting such sales, there could be a significant negative impact on our results of operations or financial condition. In addition, the focus on non-traditional energy investments could result in reduced spending by such companies or decreased demand for our existing products and services. We are unable to predict what effect the energy transition in the industry may have on prices, spending by customers, selling strategies, competitive position, customer retention or our ability to negotiate favorable agreements with customers.

Investments in new technologies involve uncertainties and risk. Commercial success depends on many factors, including the levels of innovation, the development costs and the availability of capital resources to fund those costs, the levels of competition from others developing similar or other competing technologies, our ability to obtain or maintain government permits or certifications, the effectiveness of production, distribution and marketing efforts, and the costs to customers to deploy and provide support for the new technologies. In addition, it has dailton, it has a dailton

We may not be able to successfully implement our strategy of increasing sales of our products and services for use in basins located in the U.S. or international markets.

A key component of our growth strategy is to increase our market share in the U.S. and international markets. In Canada, we have several product and service offerings where we have established a higher market share through a long-standing operating history. In the U.S. and international markets, we have been selling for a shorter period of time and thus must convince potential customers about either the value of the emerging technology compared to traditional methods or, in the case of more mature technology offerings, our differentiated benefits.

In the United States, we sell a variety of products and services, including our fracturing systems, enhanced recovery systems, well construction, tracer diagnostic services and composite frac plugs, perforating guns and related products through Repeat Precision. To sell the fracturing systems products and services we must convince customers of the benefits of pinpoint stimulation as compared to traditional well completion techniques, which remain the prevailing methods to complete wells in the United States. In many circumstances, it has been and may continue to be difficult convincing potential customers of the benefits of our technologies relative to traditional well completion techniques, whether it be for more specific targeted uses or widespread adoption. Additionally, unfavorable industry reports or poor well performance for wells that were completed using pinpoint stimulation would harm the perception of pinpoint stimulation and the technological advances in traditional well completion techniques that have made, and could continue to make, it more difficult to convince potential customers to adopt pinpoint stimulation. For the other product and service categories that we sell in the United States, we often compete in markets with many other competitors where we have more limited technology differentiation which makes it more difficult to increase market share, as further described in the risk factor —"Competition within our industry may adversely affect our ability to market our services."

In international markets, we sell a variety of products and services, including our fracturing systems, enhanced recovery systems, well construction, and tracer diagnostic services. For these markets, we often compete with large national and multi-national companies that have substantially longer operating histories in the geographic markets. International clients may be less likely to utilize smaller oilfield service providers as they prefer to leverage fewer providers with a proven track record in their market. We also may face regulatory issues in various international markets that may make it difficult to economically enter the market.

A single customer constituted 6% and 7% of our revenue for the years ended December 31, 2022 and 2021, respectively. The loss of any of our significant customers, or their failure to pay the amounts they owe us, could cause our revenue to decline substantially.

A single customer accounted for approximately 6% and 7% of our revenue for the years ended December 31, 2022 and 2021, respectively. Additionally, our five largest customers accounted for approximately 24% and 30% of our revenue for the years ended December 31, 2022 and 2021, respectively. It is likely that we will continue to derive a significant portion of our revenue from these customers in the near future. There has been an increase in consolidation amongst E&P companies and, as a result, we have experienced a reduction in spending with certain large customers and may continue to further experience a reduction in future business

with consolidating customers if combined capital spending is reduced, if procurement strategies are altered, or if the counterparty in the consolidation has other preferred vendors for the products and services we have been providing. If any large customers decided not to continue to use our products and services for any reason, our revenue would decline, which could have a material adverse effect on our business, financial condition and results of operations. In addition, we are subject to credit risk due to the concentration of our customer base. Any nonperformance by these customers, including their failure to pay the amounts they owe us, either as a result of changes in general financial and economic conditions, conditions in the oil and natural gas industry or otherwise, could have a material adverse effect on our business, financial condition and results of operations.

Advancements in drilling and well completion technologies and processes could have a material adverse effect on our business, financial condition, results of operations and cash flows

Our industry is characterized by rapid and significant technological advancements and introductions of new products and services using new technologies. As new well completion technologies develop, we may be placed at a competitive disadvantage, and competitive pressure may force us to implement new technologies at a substantial cost. We may not be able to successfully acquire or use new technologies. New technologies, services or standards, including improvements to existing competing technologies, could render our technologies, products or services obsolete, which could have a material adverse effect on our business, financial condition and results of operations. In addition, the development of new processes to replace hydraulic fracturing altogether or that replace our technologies, could cause a decline in the demand for the products and services that we provide and could result in a material adverse effect on our business, financial condition and results of operations.

Our competitors may infringe upon, misappropriate, violate or challenge the validity or enforceability of our intellectual property and we may not be able to adequately protect or enforce our intellectual property rights in the future. We may be adversely affected by disputes regarding intellectual property rights.

We currently hold multiple U.S., Canadian and international patents and have multiple pending patent applications for products and processes. Patent rights are limited and it may be possible for a third-party to design around our patents. Furthermore, patent rights have strict territorial limits and we may not be able to enforce our patents against infringement occurring in "non-covered" territories. Also, we do not have patents in every jurisdiction in which we conduct business and our patent portfolio will not protect all aspects of our business and may relate to obsolete or unusual methods, which would not prevent third parties from entering the same market.

Despite our efforts to safeguard our intellectual property rights, we may not be successful in doing so, or the steps taken by us in this regard may not be adequate to detect or deter misappropriation of our technology or to prevent an unauthorized third party from copying or otherwise obtaining and using our products, technology or other information that we regard as proprietary. Moreover, our competitors may independently develop equivalent knowledge, methods and know-how. Competitors could purchase our products and attempt to replicate some or all of the competitive advantages we derive from our development efforts, infringe our intellectual property rights, design around our protected technology or develop their own competitive technologies that fall outside of our intellectual property rights. Our inability to adequately protect our intellectual property could allow our competitors and other third parties to produce products based on our patented or proprietary technology and other intellectual property rights, providing increased competition and pricing pressure, which could substantially impair our ability to compete.

In addition, by customarily entering into employment, confidentiality and/or license agreements with our employees, customers and potential customers and suppliers, we attempt to limit access to and distribution of our technology. Our rights in our confidential information, trade secrets, and confidential know-how will not prevent third parties from independently developing similar information. Publicly available information (e.g. information in expired issued patents, published patent applications, and scientific literature) can also be used by third parties to independently develop technology. This independently developed technology may be equivalent or superior to our proprietary technology.

Confidential information shared with employees, customers and potential customers and suppliers may be used by those parties in a manner inconsistent with their employment, confidentiality and/or license agreements and we may not be able to adequately protect against or stop such behavior. We may not be able to determine if competitive technology offered by third parties was independently developed or resulted from breach of our agreements. In addition, we operate in certain jurisdictions with a heightened risk of misappropriation or misuse of confidential information and intellectual property and it may be more difficult in such jurisdictions to enforce our rights.

We have in the past, are presently, and may in the future, become involved in legal proceedings to protect and enforce our intellectual property rights. In addition, third parties may initiate litigation against us by asserting that the conduct of our business infringes, misappropriates or otherwise violates intellectual property rights. We may not prevail in any legal proceedings related to such claims, and our products and services may be found to infringe, impair, misappropriate, dilute or otherwise violate the intellectual property rights of others. If we are sued for infringement and lose, we could be required to pay substantial damages and/or be enjoined from using or selling the infringing products or technology. Likewise, if we do not prevail in the lawsuits initiated by us, it could impact the strength or validity of the patents in question and decrease our competitive advantage in the market that was

protected by the patent. Any legal proceeding concerning intellectual property is likely to be protracted and costly and is inherently unpredictable and could have a material adverse effect on our business, financial condition and results of operation, regardless of its outcome.

The products and services we provide are used in operations that are subject to potential hazards inherent in the oil and natural gas industry, including claims for personal injury and property damage, and, as a result, we are exposed to potential liabilities that may affect our financial condition and reputation.

The products and services we provide are used in potentially hazardous drilling, completion and production applications in the oil and natural gas industry where an accident or a failure of a product can potentially have catastrophic consequences. Risks inherent to these applications, such as equipment malfunctions and failures, equipment misuse and defects, explosions, blowouts and uncontrollable flows of oil, natural gas or well fluids and natural disasters can cause personal injury, loss of life, suspension of operations, damage to fracilities, business interruption and damage to or destruction of property, surface water and drinking water resources, equipment and the environment. If our products or services fail to meet specifications or are involved in accidents or failures, we could face warranty, contract or other litigation claims, which could expose us to substantial liability for personal injury, wrongful death, property damage, pollution and other environmental damages. We operate with many of our customers under MSAs. We endeavor to allocate potential liabilities and risks between the parties in MSAs, which may result in material liability to us. In addition, despite our intention to generally allocate risk under MSAs, we might not have any contract arrangement which allocates responsibility or may operate more onerous terms and conditions proposed by customer. If we are operating under an MSA, we may not succeed in enforcing such contractual allocation, might incur an unforeseen liability falling outside the scope of such allocation or may be required to enter into an MSA with terms that are unfavorable to us. As a result, we may incur substantial losses which could have a material adverse effect on our business, financial condition and results of operations.

In addition, the frequency and severity of such incidents will affect operating costs, insurability and relationships with customers, employees and regulators. In particular, our customers may elect not to purchase our services if they view our safety record as unacceptable, which could cause us to lose customers and substantial revenues. In addition, these risks may be greater for us because we may acquire companies that have not allocated significant resources and management focus to safety and have a poor safety record requiring rehabilitative efforts during the integration process and we may incur liabilities for losses before such rehabilitation occurs.

Losses and liabilities from operating activities could have a material adverse effect on our business, financial condition and results of operations

Our insurance policies may not be adequate to cover all liabilities. Our operations are subject to significant hazards often found in the oil and natural gas industry. Claims for loss of oil and natural gas production and damage to formations occur in the ordinary course of business in the well services industry. Litigation arising from a catastrophic occurrence at a location where our products and services are being used may result in our being named as a defendant in lawsuits asserting large claims. As described in the risk factor above, our MSAs may require us to indemnify our customers for damage or loss arising out of our sale of goods or performance of our work, regardless of fault, and provide for warranties for products and workmanship and we may also be required to name the customer and others as an additional insured under our insurance policies. We maintain limited insurance coverage against these and other risks associated with our business. Any insurance obtained by us may not be adequate to cover any losses or liabilities and, particularly in the event that we must submit larger claims to insurance providers, this insurance may not continue to be available at all or on terms which are acceptable to us. Insurance rates have in the past been subject to wide fluctuation and changes in coverage could result in less coverage, increases in cost or higher deductibles and retentions. Moreover, even if we are successful in defending a claim, it could be time-consuming and costly to defend. Furthermore, the operational insurance coverage we maintain for our business may not fully insure us against all risks, either because insurance is not available or because of the high premium costs relative to perceived risk. For example, our insurance does not typically cover losses and liabilities related to intellectual property or general breach of contract claims or pandemics. Also, our customers or other service providers may not carry adequate insurance to cover any losses or liabilities where we may be indemnifi

Explosive incidents arising out of dangerous materials used in our business could disrupt operations and result in bodily injuries and property damages, which occurrences could have a material adverse effect on our business, financial condition and results of operations.

We use explosive materials in our manufacturing processes and products. The use of explosives is an inherently dangerous activity. These activities subject us to extensive environmental and health and safety laws and regulations including guidelines and regulations for the purchase, manufacture, handling, transport, import, storage and use of explosives issued by the Bureau of Alcohol, Tobacco, Firearms and Explosives, the Federal Motor Carrier Safety regulations set forth by the U.S. Department of Transportation and the Safety Library Publications of the Institute of Makers of Explosives. Despite our use of specialized facilities to store and handle dangerous materials and our employee training programs, the storage and handling of explosive materials could result in

explosive incidents that temporarily shut down or otherwise disrupt our or our customers' operations or could cause restrictions, delays or cancellations in the delivery of our services. It is possible that such an explosion could result in death or significant injuries to employees and other persons. Material property damage to us, our customers and third parties arising from an explosion or resulting fire could also occur. Any explosion or related environmental law violation could expose us to adverse publicity and liability for damages or cause production restrictions, delays or cancellations, any of which could have a material adverse effect on our financial condition, results of operations and cash flows. Moreover, failure to comply with applicable requirements or the occurrence of an explosive incident may also result in the loss of our license to store and handle explosives, which would have a material adverse effect on our business, financial condition and results of operations.

Low commodity price environments can negatively impact oil and natural gas E&P companies and, in some cases, impair their ability to timely pay for products or services provided or can result in their insolvency or bankruptcy, any of which exposes us to credit risk of our oil and natural gas E&P customers.

We are subject to the risk of loss resulting from nonpayment or nonperformance by our customers, many of whose operations may be concentrated in certain markets which, as described above, are subject to volatility and, therefore, credit risk. Our credit procedures and policies may not be adequate to fully reduce customer credit risk. If we are unable 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 atterial adverse effect on our business, financial conditions. Further, in weak economic and commodity price environments, we may experience difficulties, delays or failures in collecting outstanding receivables from many customers, due to, among other reasons, a reduction in their cash flow from operations, their inability to access the credit markets and, in certain cases, their insolvencies. Further, laws in some jurisdictions in which we operate could make collection unlikely, difficult or time consuming. Such collection issues could have a material adverse effect on our business, financial condition and results of operations.

To the extent one or more of our key customers commences bankruptcy proceedings, our contracts with these customers may be subject to rejection under applicable provisions of the U.S. Bankruptcy Code and similar international laws, or may be renegotiated. Further, during any such bankruptcy proceeding, prior to assumption, rejection or renegotiation of such contracts, the bankruptcy court may temporarily authorize the payment of value for our services less than contractually required, which could also have a material adverse effect on our business, financial condition and results of operations.

The growth of our business through acquisitions or strategic partnerships exposes us to various risks, including identifying suitable opportunities and integrating businesses, assets and personnel.

We evaluate and pursue acquisitions on a regular basis in order to expand and diversify our business. We may also form strategic partnerships with third parties that we believe will complement or augment our existing business. We may not be able to identify any potential acquisition or strategic partnership candidates, consummate any acquisitions or enter into any strategic partnerships and any future acquisitions or strategic partnerships may not be successfully integrated or may not be advantageous to us. In addition, we may not have or be able to obtain sufficient capital resources to complete any acquisitions. Entities we acquire may not achieve the revenue and earnings we anticipate or their liabilities may exceed our expectations. We could face integration issues pertaining to the internal controls and operational functions of the acquired companies and we also could fail to realize cost efficiencies or synergies that we anticipated when selecting our acquisition candidates. Client dissatisfaction or performance problems with a particular acquired entity or resulting from a strategic partnership could have a material adverse effect on our reputation as a whole. We may be unable to profitably manage any acquired entities, or we may fail to integrate them successfully without incurring substantial expenses, delays or other problems. We may not achieve the anticipated benefits from our acquisitions or any of the strategic partnerships we form. In addition, business acquisitions and strategic partnerships involve a number of risks that could affect our business, financial condition and results of operations, including but not limited to:

our ability to integrate or implement operational, accounting and technology policies, processes and systems;

our ability to integrate personnel and human resources systems as well as the cultures of each of the acquired businesses;

our ability to implement our business plan for the acquired business;

transition of operations, users and clients to our existing platforms or the integration of data, systems and technology platforms with ours;

compliance with regulatory requirements and avoiding potential conflicts of interest in markets that we serve;

diversion of management's attention and other resources;

our ability to retain or replace key personnel;

our ability to maintain relationships with the customers of the acquired business or a strategic partner and further develop the acquired business or the business of our strategic partner;

our ability to cross-sell our products and services and products and services of the acquired businesses or strategic partners to our respective clients;

entry into unfamiliar markets

assumption of unanticipated legal or financial liabilities and/or negative publicity related to prior acts by the acquired entity:

litigation or other claims in connection with the acquired company, including claims from terminated employees, clients, former stockholders or third parties;

misuse of intellectual property by our strategic partners;

disagreements with strategic partners or a misalignment of incentives within any strategic partnership;

becoming subject to increased regulation as a result of an acquisition;

becoming significantly leveraged as a result of incurring debt to finance an acquisition;

unanticipated operating, accounting or management difficulties in connection with the acquired entities; and

impairment of acquired intangible assets, including goodwill, and dilution to our earnings per share

If we fail to successfully integrate the businesses that we acquire or strategic partnerships that we enter into, we may not realize any of the benefits we anticipate in connection with the acquisitions or partnerships, which could have a material adverse effect on our business, financial condition and results of operations.

We may be adversely affected by the effects of inflation.

Inflation in wages, materials, components, parts, equipment and other costs has the potential to adversely affect our results of operations, cash flows and financial position by increasing our overall cost structure, particularly if we are unable to achieve commensurate increases in the prices we charge our customers for our products and services. In addition, higher interest rates may be implemented by governments as monetary policy to combat inflation, which could result in higher borrowing costs, supply shortages, increased costs of labor, weakening exchange rates and other similar effects.

Disruptions or delays involving our suppliers or increases in prices for the components, raw materials and parts that we obtain from our suppliers could have a material adverse effect on our business and consolidated results of operations.

Our operations are dependent upon the continued ability of our suppliers to deliver the components, raw materials and parts that we need to manufacture our products. In some instances, we purchase components, raw materials and parts that are ultimately derived from a single source and may be at an increased risk for supply disruptions. Any number of factors, including labor disruptions, activity, catastrophic weather events, the occurrence of a pandemic or other widespread illness (such as COVID-19), contractual or other disputes, unfavorable economic or industry conditions, transportation disruptions, delivery delays or other performance problems of inancial difficulties or solvency problems, could disrupt our suppliers' operations and performance, which could, in turn, lead to uncertainty in our supply chain or cause supply disruptions for us and disrupt our operations. Recently and continuing into 2023, we have been facing an inflationary environment with respect to our supply chain, which is resulting in extended delivery times and increased prices for raw materials, supplies and transportation. In addition, our Repeat Precision joint venture operates two manufacturing facilities in Mexico. There are several risks associated with doing business in Mexico, including, exposure to local economic and political conditions, export and import restrictions, tariffs and related duty-free rules, and the potential for shortages of labor. The realization of any of these risks could disrupt our supply chain and adversely affect our business and results of operations.

Changes in trade policies, including the imposition of tariffs, could negatively impact our business, financial condition and results of operations. The U.S. administration may propose or take action with respect to major changes to trade policies, such as the imposition of tariffs on imported products and the withdrawal from or renegotiation of certain trade agreements. These could also result in additional retaliatory action by United States' trade partners. Given that we procure some of the raw materials that we use to create our products directly from outside of the United States, the imposition of tariffs and other potential changes in U.S. trade policy could increase the cost or limit the availability of such raw materials, which could harm our competitive position and adversely impact our business, financial condition and results of operations. For example, the United States has a tariff of 25% in place on a significant number of commodities originating from China, including certain chemicals utilized in our tracer diagnostics business. In addition, we sell a significant proportion of our products to customers outside of the United States. Retaliatory actions by other countries could result in increases in the price of our products, which could limit demand for such products, hurt our global competitive position and have a material adverse effect on our business, financial condition, and results of operations.

Although we have been able to manage supply chain impacts through the COVID-19 pandemic, we have been experiencing longer lead times for certain materials and increases in prices. If we experience further supply disruptions, we may not be able to

develop alternate sourcing quickly. Any disruption of our production schedule caused by an unexpected shortage of components, raw materials or parts even for a relatively short period of time could cause us to alter production schedules or suspend production entirely, which would adversely affect our business and results of operations.

Our success may depend on the continued service and availability of key personnel.

Our success and future growth is dependent upon the ability of our executive officers, senior managers and other key personnel to operate and manage our business and execute on our growth strategies successfully. We may be unable to continue to attract and retain our executive officers, senior managers or other key personnel. We may incur increased expenses in connection with the hirring, promotion, retention or replacement of any of these individuals as we have recently observed an overall tightening and increasingly competitive local labor market. These labor costs include the cost of providing employee benefits in the United States, Canada and other foreign jurisdictions, including severance benefits. The loss of the services of any of our key personnel could have a material adverse effect on our business, financial condition and results of operations.

We may be unable to attract and retain skilled and technically knowledgeable employees, which could adversely affect our business.

Our success and future growth is dependent upon attracting and retaining highly skilled professionals and other technical personnel. A number of our employees are highly skilled engineers, chemists and highly trained technicians, and our failure to continue to attract and retain such individuals could adversely affect our ability to compete in the oilfield services industry. We may confront significant and potentially adverse competition for these skilled and technically knowledgeable personnel, particularly during periods of increased demand for oil and natural gas. Additionally, at times there may be a shortage of skilled and technical personnel available in the market, potentially compounding the difficulty of attracting and retaining these employees. Although we have not experienced any material labor shortage to date, we have recently observed an overall tightening and increasingly competitive local labor market. A sustained labor shortage or increased turnover rates within our employee base could lead to increased costs and a material adverse effect on our business. financial condition and results of operations.

We conduct a portion of our operations through the Repeat Precision joint venture, which subjects us to additional risks that could adversely affect the success of these operations and the ability of Repeat Precision to make cash distributions to us, which could adversely impact our business, financial position and results of operations.

We conduct a portion of our operations through the Repeat Precision joint venture and may also enter into other joint venture arrangements in the future. Our joint venture arrangements may involve risks not otherwise present when operating assets directly. For example, we may:

Share approval rights over certain major decisions and may not be able to fully control decisions, including cash distributions to us from the joint venture;

Devote significant management time to the requirements of, and matters relating to, the joint ventures;

Engage in disputes that may result in delays, litigation or operational impasses;

Incur liabilities as a result of an action taken by our joint venture partner, including leaving us liable for the other joint venture partners' shares of joint venture liabilities;

Not receive credit for additional borrowing capacity under the borrowing base of our ABL Facility, as in the case with the Repeat Precision joint venture;

Breach a covenant or restriction in the promissory note entered into by Repeat Precision (the "Repeat Precision Promissory Note");

Have different systems or controls at the joint venture, which may subject us to additional risks and vulnerabilities; and

Not carry adequate insurance policies that fully cover loss or damage incurred by both us and our joint venture partners in certain circumstances.

The risks described above or the failure to continue our joint venture could adversely affect our ability to transact the business that is the subject of such joint venture and our ability to receive cash distributions from the joint venture, which would in turn adversely affect our business, financial position and results of operations.

A significant amount of our revenue generated is denominated in CAD and could be negatively impacted by currency fluctuations.

Approximately 65% of our revenue for the year ended December 31, 2022 was generated in Canada, which may expose us to currency fluctuations. Changes in currency exchange rates, particularly with respect to CAD, could have a material adverse effect on our results of operations or financial position. As we have a trade accounts receivable balance in Canadian dollars of \$19.6 million CAD as of December 31, 2022, a 10% movement in exchange rates for CAD relative to USD would increase or decrease the resulting trade accounts receivable balance by \$1.4 million. We have not hedged our exposure to changes in foreign currency exchange rates and, as a result, could incur significant and unanticipated translation gains and losses.

Our operations may be limited or disrupted in certain parts of the continental United States, Canada and the North Sea during severe weather conditions, which could have a material adverse effect on our business, financial condition and results of operations.

We provide products and services to E&P companies that operate in basins throughout the continental United States, Canada and in the North Sea. We serve these markets through our facilities and service centers located in Texas, Oklahoma, Montana, West Virginia, and Alberta and Saskatchewan, Canada, and Western Norway. A substantial portion of our revenue is generated from our operations in geographies where weather conditions may be severe, particularly during winter and spring months. Many experts believe global climate change could increase the frequency and severity of extreme weather conditions. Repercussions of severe weather conditions may include:

curtailment of drilling and completion activity;

weather-related damage to equipment resulting in suspension of operations;

weather-related damage to our facilities:

inability to deliver equipment and materials to jobsites in accordance with contract schedules; and

loss of productivity, or exposure of our employees to harm.

Many municipalities impose bans or other restrictions on the use of roads and highways, which include weight restrictions on the paved roads that lead to our jobsites due to the muddy conditions caused by spring thaws. This can limit our access to these jobsites and our ability to service wells in these areas. Harsh winter conditions in the North Sea can result in strong winds and high waves, which can limit our ability to service offshore platforms. These constraints and the resulting shortages or high costs could delay our operations and materially increase our operating and capital costs in those regions. Weather conditions may also affect the price of crude oil and natural gas, and related demand for our services. Any of these factors could have a material adverse effect on our business, financial condition and results of operations.

Hydraulic fracturing is substantially dependent on the availability of water. Restrictions on the ability of our customers to obtain water may have a material adverse effect on our business, financial condition and results of operations.

Water is an essential component of deep shale oil and natural gas production during both the drilling and hydraulic fracturing processes. Over the past several years, certain of the areas in which we sell our products and services have experienced extreme drought conditions and competition for water in such shales is growing. As a result of this severe drought, some local water districts have begun restricting the use of water subject to their jurisdiction for hydraulic fracturing to protect local water supply. The inability of our customers to obtain water to use in their operations from local sources or to effectively utilize flowback water could impact demand for our products and services, which could have a material adverse effect on our business, financial condition and results of operations.

The adoption of climate change legislation or regulations restricting emissions of GHGs, and associated litigation, could result in increased compliance or operating costs, limit the areas in which our customers may conduct E&P activities, and reduce demand for oil and natural gas.

Governmental, scientific, and public concern over the threat of climate change arising from GHG emissions is giving rise to an increased likelihood of regulatory actions to address climate change in the United States and abroad. As a result, our customers are or may become subject to statutes or regulations aiming to reduce emissions of GHGs. In December 2009, the EPA determined that emissions of carbon dioxide, methane and other GHGs present an endangerment to public health and the environment because emissions of such gases are, according to the EPA, contributing to warming of the earth's atmosphere and other climatic changes. Based on these findings, the EPA has proposed regulations restricting emissions of GHG sunder existing provisions of the CAA, including establishing NSPS, a set of uniform technology-based standards for new and modified sources of air pollution, that govern emissions of methane and volatile organic compounds from new and modified oil and natural gas development and production operations. EPA also is expected to issue NSPS for new gas-fired power plants and existing coal and gas power plants in March 2023. In addition, in November 2021, EPA issued a proposed rule and a corresponding supplemental proposal in November 2022, that

would sharply reduce the emission of methane and other air pollutants from both new and existing sources in the oil and natural gas industry. The proposal would expand current emissions reduction requirements for new, modified and reconstructed oil and natural gas sources, and would require states to reduce methane emissions from hundreds of thousands of existing sources nationwide for the first time. Most recently, the Inflation Reduction Act of 2022 became law in August 2022, and aims to reduce GHGs, including carbon dioxide, by 40 percent by 2030. The Inflation Reduction Act provides billions of dollars in grants and loans designed to facilitate financing and deployment of renewable energy projects in the United States. While the scope and future implementation of any final rules regarding such proposed NSPS, emissions requirements and financial incentives, remain uncertain, these rules could have an adverse effect on our customers and result in an indirect material adverse effect on our business.

Various U.S. states or groups of states have adopted or considered adopting legislation, regulations or other governmental actions focused on reducing GHG emissions, including cap and trade programs, carbon taxes, reporting and tracking initiatives and renewable portfolio standards. At the international level, the United States is a party to the United Nations-sponsored Paris Agreement, a non-binding agreement for nations to limit their GHG emissions through individually-determined reduction goals. Although it is not possible at this time to predict how any legal requirements imposed following the implementation of the Paris Agreement or otherwise that may be adopted or issued to address or restrict GHG emissions would impact our business or that of our customers, any such future laws, regulations or legal requirements imposing reporting or permitting obligations on, or limiting emissions of GHGs from, oil and natural gas exploration activities could require our customers to incur costs to reduce emissions of GHGs associated with their operations. In addition, substantial limitations on GHG emissions could adversely affect demand for the oil and natural gas our customers produce or make it more expensive to develop and produce hydrocarbons, which could have a material adverse effect on future demand for our products and services.

In addition, claims have been made against certain energy companies alleging that GHG emissions from oil and natural gas operations constitute a public nuisance under federal and/or state common law. As a result, private individuals may seek to enforce environmental laws and regulations against certain energy companies and could allege personal injury or property damages. While our business is not a party to any such litigation, we could be named in actions making similar allegations. An unfavorable ruling in any such case could significantly impact our or our customers' operations and could have a material adverse effect on our business, financial condition and results of operations.

Moreover, climate change may cause more extreme weather conditions such as more intense hurricanes, thunderstorms, tornadoes and snow or ice storms, as well as rising sea levels and increased volatility in seasonal temperatures. Extreme weather conditions can interfere with our or our customers' operations and increase our costs, and damage resulting from extreme weather may not be fully insured. However, at this time, we are unable to determine the extent to which climate change may lead to increased storm or weather hazards affecting our operations.

Federal and state legislative and regulatory initiatives relating to hydraulic fracturing could result in increased costs and additional operating restrictions or delays on our customers, which could in turn decrease the demand for our products and services.

Our business is dependent on the ability of our customers to conduct hydraulic fracturing and horizontal drilling activities. Hydraulic fracturing is an important common practice that is used to stimulate production of hydrocarbons, particularly natural gas, from tight formations, including shales. The process, which involves the injection of water, sand and other propants under pressure into formations to fracture the surrounding rock and stimulate production, is typically regulated by state oil and natural gas commissions. The federal government can, however, limit hydraulic fracturing activities on federal lands through permitting, including by limiting the amount of lands available to lease or increasing royalty rates. In addition, the current administration cancelled the construction permit for the Keystone XL oil pipeline, which would have transported Canadian oil to the Gulf Coast. Federal agencies also have asserted regulatory authority over additional aspects of the process and there are certain governmental reviews either completed, underway, or being proposed that focus on the environmental aspects of hydraulic fracturing and the error process. In this report, the EPA released a final report assessing the potential impacts of hydraulic fracturing on drinking water resources under some circumstances. Other governmental agencies, including the U.S. Department of Energy, the U.S. Geological Survey and the U.S. Government Accountability Office, have evaluated or are evaluating various other aspects of hydraulic fracturing. State and federal regulatory agencies recently have focused on a possible connection between the operation of injection wells used for oil and natural gas waste disposal and seismic activity. When caused by human activity, such events are called induced seismicity. Regulatory agencies at all levels are continuing to study the possible linkage between oil and natural gas activity and induced seismicity. These ongoing or proposed studies could spur initiatives to further regulate hydraul

well operations. Such actions to restrict or suspend disposal well operations could make it more difficult or costly for our customers to perform fracturing

Various state and local-level initiatives in regions with substantial shale resources have been or may be proposed or implemented to further regulate hydraulic fracturing practices, limit water withdrawals and water use, require disclosure of fracturing fluid constituents, restrict which additives may be used, or implement temporary or permanent bans on hydraulic fracturing. For instance, the State of New York elected in 2015 to prohibit high volume hydraulic fracturing altogether and California is taking steps to ban fracking on state-permitted lands in 2024. Any increased regulation of hydraulic fracturing could reduce our customers' demand for our products and services and have a material adverse effect on our business, financial condition and results of operations.

At this time, it is not possible to estimate the impact on our business of newly enacted or potential federal, state or local laws governing hydraulic fracturing

Restrictions on drilling activities intended to protect certain species of wildlife may adversely affect the ability of our customers to conduct drilling activities in some of the areas where we operate.

Oil and natural gas operations in our operating areas can be adversely affected by seasonal or permanent restrictions on drilling activities designed to protect various wildlife, which may limit the ability of our customers to operate in protected areas. Permanent restrictions imposed to protect endangered species could prohibit drilling in certain areas or require the implementation of expensive mitigation measures. Additionally, the designation of previously unprotected species as threatened or endangered in areas where we operate could result in increased costs arising from species protection measures. Restrictions on the oil and natural gas operations of our customers to protect wildlife could reduce demand for our products and services, which could have a material adverse effect on our business, financial condition and results of operations.

We may not be able to meet applicable regulatory requirements for our use of certain chemicals by our tracer diagnostics business, and, even if requirements are met, complying on an ongoing basis with the numerous regulatory requirements may be time-consuming and costly.

The chemicals that we use in our tracer diagnostics business may be subject to government regulation in our target markets. In the United States, the EPA administers the Toxic Substances Control Act (the "TSCA") which regulates the commercial registration, distribution, and use of many chemicals, including many of the chemicals we use in our tracer diagnostics business. Before we can manufacture or distribution end in the TSCA inventory. If the substance is listed, then manufacture or distribution can commence immediately. If not, then we must file a Pre-Manufacture Notice ("PMN") with the EPA for review. Certain categories of chemical substances may be exempt from a full PMN review, including chemical substances that qualify for a Low Volume Exemption ("LVE"). We have filed PMNs for certain chemicals, and have sought for and obtained LVEs for other chemicals that we use in our tracer diagnostics business, and we will file additional PMNs or seek additional LVEs in the future. We may not be able to expediently receive approval from the EPA to list such chemicals on the TSCA inventory, resulting in delays in our ability to manufacture such chemicals, or significant increases in testing requirements.

In addition, once we have a consent order from the EPA allowing us to manufacture PMN substances for our tracer diagnostics business, we remain subject to regulatory requirements, including, as applicable, volume limitations that may impede us from producing sufficient quantities of such chemicals. Noncompliance with an EPA consent order could result in civil or criminal penalties and delays, or require us to cease operations that are authorized under the consent order. Similar programs exist in most, if not all, of the countries in which we may seek to produce, import or use certain chemicals in our tracer diagnostics business, including compliance with regulations imposed in Canada by the Environment and Climate Change Canada/Health Canada. In addition, federal and state agencies may change the requirements or increase their scrutiny as it relates to any of the chemicals we use. For instance, some of the chemicals we use are classified as per-and polyfluoroalkyl substances ("PFAS"), which are becoming subject to greater regulation by certain agencies. We cannot assure you that we will be able to obtain necessary approvals in a timely manner or at all. If we do not meet applicable regulatory requirements in a particular country for some chemicals, then we may not be able to commercialize those chemicals or tracers in such country, and our business could be adversely affected. Changes in regulatory requirements, laws and policies, may result in increased compliance costs, delays, capital expenditures and other financial obligations that could adversely affect our business or financial results.

Our operations and our customers' operations are subject to a variety of governmental laws and regulations that may increase our costs, limit the demand for our products and services or restrict our operations.

Our business and our customers' businesses may be significantly affected by:

federal, state and local and non-U.S. laws and other regulations relating to import tariffs, oilfield operations, worker safety and protection of the environment;

changes in these laws and regulations; and

the level of enforcement of these laws and regulations

If we fail to comply with safety regulations or maintain an acceptable level of safety at our facilities, we may incur fines, penalties or other liabilities, or may be held criminally liable. We may incur additional costs to upgrade equipment or conduct additional training, or otherwise incur costs in connection with compliance with safety regulations. Failure to maintain safe operations or achieve certain safety performance metrics could disqualify us from doing business with certain customers, particularly major oil companies.

We depend on the demand for our products and services from the oil and natural gas industry which is affected by changing taxes, price controls and other laws and regulations relating to the oil and natural gas industry in general. For example, the adoption of laws and regulations curtailing exploration and development drilling for oil and natural gas for economic or other policy reasons could adversely affect our operations by limiting demand for our products. In addition, some non-U.S. countries may adopt regulations or practices that give advantage to indigenous oil companies in bidding for oil leases, or require indigenous companies to perform oilfield services currently supplied by international service companies. To the extent that such companies are not our customers, or we are unable to develop relationships with them, our business may suffer. We cannot determine the extent to which our future operations and earnings may be affected by new legislation, new regulations or changes in existing regulations.

Because of our non-U.S. operations and sales, we are subject to changes in regional, political or economic conditions, and non-U.S. laws and policies, including taxes, trade protection measures, and changes in regulatory requirements governing the operations of companies in non-U.S. countries. We are also subject to changes in non-U.S. laws and regulations that may encourage or require hiring of local contractors or require non-U.S. contractors to employ citizens of, or purchase supplies from, a particular jurisdiction. If we fail to comply with any applicable law or regulation, it could have a material adverse effect on our business, financial condition and results of operations.

If we are unable to accurately predict customer demand or if customers cancel their orders on short notice, we may hold excess or obsolete inventory, which would reduce gross margins. Conversely, insufficient inventory would result in lost revenue opportunities and potentially a loss in market share and damaged customer relationships.

Customers can generally cancel or defer purchase orders on short notice without incurring a significant penalty. As a result, we cannot accurately predict what or how many products such customers will need in the future. Anticipating demand is difficult because our customers face unpredictable demand for their own products and are increasingly focused on cash preservation and tighter inventory management.

Orders are placed with our suppliers based on forecasts of customer demand and, in some instances, we may establish buffer inventories to accommodate anticipated demand. Our forecasts of customer demand are based on multiple assumptions, each of which may introduce errors into the estimates. If we overestimate customer demand, we may allocate resources to the purchase of material or manufactured products that we may not be able to sell when expected, if at all. As a result, we may hold excess or obsolete inventory, which would reduce gross margin and adversely affect financial results. Conversely, if we underestimate customer demand or if insufficient manufacturing capacity is available, we would miss revenue opportunities and potentially lose market share and damage our customer relationships. In addition, any future significant cancellations or deferrals of product orders or the return of previously sold products could materially and adversely affect profit margins, increase product obsolescence and restrict our ability to fund our operations.

We could be subject to additional income tax liabilities.

We are subject to income taxes in the United States (federal and state), Canada and other foreign jurisdictions. Tax laws, regulations, and administrative practices in various jurisdictions may be subject to significant change, with or without notice, due to economic, political, and other conditions, and significant judgment is required in evaluating and estimating our provision and accruals for these taxes. There are many transactions that occur during the ordinary course of business for which the ultimate tax determination is uncertain. Our effective tax rates could be affected by numerous factors, such as intercompany transactions, the relative amount of our foreign earnings, including lower than anticipated earnings in jurisdictions where we have higher statutory rates, losses incurred in jurisdictions for which we are not able to realize the related tax benefit, changes in foreign currency exchange rates, entry into new businesses and geographies, changes to our existing businesses and operations, acquisitions (including integrations) and investments and how they are financed, changes in our deferred tax assets and liabilities and their valuation, and changes in the relevant tax, accounting, and other laws, regulations, administrative practices, principles, and interpretations. In addition, a number of countries are actively pursuing changes to their tax laws applicable to corporate multinationals.

We are also currently subject to audit in various jurisdictions, and these jurisdictions may assess additional income tax liabilities against us. Additionally, several tax authorities have increasingly focused attention on intercompany transfer pricing with respect to

sales of products and services and the use of intangibles. Tax authorities could disagree with our cross-jurisdictional transfer pricing or other matters and assess additional taxes. If we do not prevail in any such disagreements, our profitability and cash flows may be adversely affected. Developments in an audit, litigation, or the relevant laws, regulations, administrative practices, principles, and interpretations could have a material effect on our operating results or cash flows in the period or periods for which that development occurs, as well as for prior and subsequent periods.

Loss of our information and computer systems could adversely affect our business.

We are heavily dependent on our information systems and computer based programs, including our engineering information and accounting data. If any of such programs or systems were to fail or create erroneous information in our hardware or software network infrastructure, whether due to cyberattack or otherwise, possible consequences include our loss of communication links and inability to automatically process commercial transactions or engage in similar automated or computerized business activities. Any such consequence could have a material adverse effect on our business, financial condition and results of operations.

We are subject to cyber security risks. A cyber incident could occur and result in information theft, data corruption, operational disruption and/or financial loss

Our operations depend on effective and secure information technology systems. Threats to information technology systems, including as a result of cyberattacks and cyber incidents, continue to grow. Cybersecurity risks could include, but are not limited to, ransomware attacks, malicious software, attempts to gain unauthorized access to our data and the unauthorized release, corruption or loss of our data and personal information, interruptions in communication, loss of our intellectual property or theft of our sensitive or proprietary technology, loss or damage to our data delivery systems, or other cybersecurity and infrastructure systems, including our property and equipment. As a result of our hybrid work schedule, remote work and remote access to our systems has increased significantly as a large number of our office employees work remotely at least two days a week. Remote work relies heavily on the use of remote networking and online conferencing services that enable employees to work outside of our corporate infrastructure and, in some cases, use their own personal devices, which exposes us to additional cybersecurity risks, including unauthorized access to sensitive information as a result of increased remote access and other cybersecurity related incidents.

We are consistently subject to attempts to compromise our information technology systems. It is possible that our business, financial and other systems could be compromised, which could go unnoticed for a prolonged period of time. While various procedures and controls are being utilized to mitigate exposure to such risk, there can be no assurance that the procedures and controls that we implement, or which we cause third party service providers to implement, are sufficient to protect our systems, information or other property. Additionally, eustomers as well as other third parties upon whom we rely face similar cybersecurity threats, which could directly or indirectly impact our business and operations. The occurrence of a cyber incident or attack could have a material adverse effect on our business, financial condition and results of operations. Further, as cyber incidents continue to evolve, we may be required to incur additional costs to continue to modify or enhance our protective measures or to investigate or remediate the effects of cyber incidents. Also, our insurance coverage for cyberattacks may not be sufficient to cover all the losses we may experience as a result of such cyberattacks.

Complications with our ERP system could adversely impact our business and operations.

We rely extensively on information systems and technology to manage our business and summarize operating results. Our ERP system is designed to accurately maintain our financial records, enhance operational functionality and provide timely information to our management team related to the operation of the business. Technical issues in the operation of our ERP system could cause operating and reporting delays, increased costs and other difficulties. If we are unable to successfully operate our ERP system, it could have a material adverse effect on our business, financial condition and results of operations. Additionally, if we do not effectively operate the ERP system, the effectiveness of our internal control over financial reporting could be adversely affected or our ability to assess those controls adequately could be delayed.

Impairment in the carrying value of long-lived assets including goodwill could negatively affect our operating results.

We evaluate our property and equipment and identifiable intangible assets for impairment whenever changes in circumstances indicate that the carrying amount of an asset group may not be recoverable. Should the review indicate that the carrying value is not fully recoverable, the amount of the impairment loss is determined by comparing the carrying value to the estimated fair value. See "Note 2. Summary of Significant Accounting Policies," "Note 6. Property and Equipment" and "Note 7. Goodwill and Identifiable Intangibles" of our consolidated financial statements for further information.

An assessment of potential goodwill impairment indicators is performed annually or whenever there is a triggering event that indicates an impairment loss may have been incurred. Under accounting principles generally accepted in the United States ("GAAP"), we determine if it is more likely than not that the fair value of a reporting unit exceeds the related carrying amount. Determining the fair value of a reporting unit requires the use of estimates, assumptions and judgment. See "Note 2. Summary of Significant

Accounting Policies" and "Note 7. Goodwill and Identifiable Intangibles" of our consolidated financial statements for further information.

We are unable to predict whether impairments of one or more of our long-lived assets or investments may occur in the future. Such an impairment would result in non-cash charges and might result from conditions that could materially adversely affect our business, financial condition and results of operations.

Our business operations in countries outside of the United States are subject to U.S. and non-U.S. federal laws and regulations, including restrictions imposed by the Foreign Corrupt Practices Act as well as trade sanctions administered by the OFAC and the Commerce Department.

Local laws and customs in many countries differ significantly from those in the United States. In many countries, particularly in those with developing economies, it is common to engage in business practices that are prohibited by U.S. regulations applicable to us. The U.S. Foreign Corrupt Practices Act ("FCPA") and similar anti-bribery laws in other jurisdictions, including the UK Bribery Act 2010, prohibit corporations and individuals, including us and our employees, from engaging in certain activities to obtain or retain business or to influence a person working in an official capacity. We are responsible for any violations by our employees, contractores, contrac

Compliance with U.S. regulations on trade sanctions and embargoes administered by OFAC also poses a risk to us. We cannot provide products or services to certain countries subject to U.S. trade sanctions. Furthermore, the laws and regulations concerning import activity, export recordkeeping and reporting, export control and economic sanctions are complex and constantly changing. Any failure to comply with applicable legal and regulatory trading obligations could result in criminal and civil penalties and sanctions, such as fines, imprisonment, debarment from governmental contracts, seizure of shipments and loss of import and export privileges.

We may not be able to satisfy technical requirements, testing requirements, code requirements or other specifications under contracts and contract tenders

Many of our products could be used in harsh environments and severe service applications. Our contracts with customers and customer requests for bids may set forth detailed specifications or technical requirements (including that they meet certain industrial code requirements, such as API, ASME or similar codes, or that our products and services, which may also include extensive testing requirements. We cannot assure you that our products or facilities will be able to satisfy the seprecifications or requirements, or that we will be able to perform the full-scale testing necessary to prove that the product specifications are satisfied in future contract bids or under existing contracts, or that the costs of modifications to our products or facilities are unable to satisfy such requirements, or we are unable to perform or satisfy the required testing, our customers may cancel their contracts and/or seek new suppliers, which could have a material adverse effect on our business, financial condition and results of operations.

Risks Relating to Our Indebtedness

We are a holding company and rely on dividends, distributions and other payments, advances and transfers of funds from our subsidiaries to meet our obligations.

We are a holding company that does not conduct any business operations of our own. As a result, we are largely dependent upon cash dividends and distributions and other transfers from our subsidiaries to meet our obligations. The agreements governing the indebtedness of our subsidiaries impose restrictions on our subsidiaries' ability to pay dividends or other distributions to us. The deterioration of the earnings from, or other available assets of, our subsidiaries for any reason also could limit or impair their ability to pay dividends or other distributions to us.

Our outstanding indebtedness could adversely affect our financial condition and our ability to operate our business, and we may not be able to generate sufficient cash flows to meet our debt service obligations.

As of December 31, 2022, our total outstanding indebtedness was \$7.9 million, of which no amount was outstanding under our ABL Facility. Under our ABL Facility, which is secured by substantially all of our assets, we may borrow up to the lesser of a borrowing base and \$35.0 million, with sublimits for loans in Canadian dollars, letters of credit and swingline loans. The borrowing

base is determined based on 85% of eligible accounts receivable, 85% of the net orderly liquidation value of eligible inventory, and 100% of cash in a specified pledged account, subject to change in the administrative agent's permitted discretion, and does not include assets of Repeat Precision. The ABL Facility authorizes, but does not require, the administrative agent to make over-advances, notwithstanding a borrowing base deficiency, of up to 10% of aggregate commitments (but never to exceed the lenders' aggregate commitments). Our ABL Facility is subject to interest rate fallback provisions applicable in the event that the secured overnight financing rate ("SOFR") or other interest rate benchmarks provided thereunder become unavailable or unrepresentative of fenders' cost of funds. There can be no assurance that our ABL Facility will be adequate in size to satisfy our liquidity needs, or that adverse energy market developments impacting our customers will not constrain our liquidity by reducing the size of our borrowing base.

Our outstanding indebtedness, and any additional indebtedness we incur, may have important consequences for us, including, without limitation, that: we may be required to use a substantial portion of our cash flow to pay the principal of and interest on our indebtedness; our indebtedness and leverage may increase our vulnerability to adverse changes in general economic and industry conditions, as well as to competitive pressures; our ability to obtain additional financing for working capital, capital expenditures, acquisitions and for general corporate and other purposes may be limited; our indebtedness may expose us to the risk of increased interest rates because our borrowings are at variable rates of interest (including SOFR); our indebtedness may prevent us from taking advantage of business opportunities as they arise or successfully carrying out our plans to expand our business; and our flexibility in planning for, or reacting to, changes in our business and our industry may be limited by covenants in our indebtedness documents.

Under the terms of the credit agreement governing our ABL Facility, we are required to comply with specified financial and operating covenants, which may limit our ability to operate our business as we otherwise might operate it. The obligations under our ABL Facility may be accelerated upon the occurrence of an event of default, which includes customary events of default including, without limitation, payment defaults, cross-defaults to certain material indebtedness, covenant defaults, material inaccuracy or representations and warranties, bankruptcy events, material judgments, certain ERISA-related events, material defects with respect to guarantees and collateral, invalidity of subordination provisions and change of control. If not cured, an event of default could result in any amounts outstanding, including any accrued interest and unpaid fees, becoming immediately due and payable, which would require us to, among other things: seek additional financing in the debt or equity markets, refinance or restructure all or a portion of our indebtedness, sell selected assets and/or reduce or delay planned capital or operating expenditures. Such measures might not be sufficient to enable us to service our debt and any such financing or refinancing might not be available on economically favorable terms or at all. If we are not able to generate sufficient cash flows to meet our debt service obligations or are forced to take additional measures to be able to service our indebtedness, it could have a material adverse effect on our business, financial condition and results of operations.

We and our subsidiaries may be able to incur substantial indebtedness.

We may incur substantial additional indebtedness in the future. Although the terms of the agreement governing our ABL Facility contains restrictions on our ability to incur additional indebtedness, these restrictions could be substantial. Repeat Precision has entered into the Repeat Precision Promissory Note with an aggregate borrowing capacity of \$4.3 million, which may be used to fund its business strategies and the joint venture could be substantial. Repeat Precision increases the outstanding borrowings under the Repeat Precision Promissory Note, it may not be able to meet the ongoing interest obligations or repay the principal balance when due and the note may not be renewed on the current annual schedule, which could prevent Repeat Precision from pursuing its business strategies, paying us cash distributions or obtaining additional financing and could also have a material address effect on our business, financial condition and results of operations. If we and our subsidiaries incur substantial additional indebtedness, the related risks to our financial condition could increase.

Restrictive covenants in the agreement governing our ABL Facility or other indebtedness may restrict our ability to pursue our business strategies.

The agreement governing our ABL Facility contains a number of restrictive covenants that impose significant operating and financial restrictions on us and may limit our ability to engage in acts that may be in our long-term best interests. These include covenants restricting, among other things, our ability to: incur additional indebtedness; grant liens; enter into burdensome agreements with negative pledge clauses or restrictions on subsidiary distributions; make certain investments; pay dividends; make payments in respect of junior lien or subordinated debt; make acquisitions; consolidate, amalgamate, merge, liquidate, divide or dissolve; sell, transfer or otherwise dispose of assets; make certain organizational changes (including with respect to organizational documents and changes in fiscal year); engage in sale-leaseback transactions; engage in transactions with affiliates; enter into operating leases; enter into hedging arrangements; enter into certain leasehold arrangements and arrangements with respect to inventory and equipment; and materially alter our business. In addition, the agreement governing the Repeat Precision Promissory Note (together with the ABL Facility, the "Available Loans") contains a number of restrictive covenants that impose significant operating and financial restrictions on Repeat Precision.

Our ABL Facility requires, as a condition to borrowing, that our available cash on hand after borrowings does not exceed \$10.0 million. The ABL Facility also contains a financial covenant requiring us to maintain a fixed charge coverage ratio of at least 1.0 to 1.0 for the applicable 12 month period whenever liquidity under our ABL Facility is less than 20% of revolving commitments. Our ability to satisfy the fixed charge coverage ratio can be affected by events beyond our control and we cannot assure you that we will be able to satisfy these covenants. Our inability to satisfy the fixed charge coverage ratio could render us unable to borrow under the ABL Facility at the time when liquidity is most needed.

A breach of any covenant or restriction contained in the agreement governing our Available Loans could result in an event of default thereunder. If any such event of default occurs, the lenders under the respective Available Loan may elect (after the expiration of any applicable notice or grace periods) to declare all outstanding borrowings, together with accrued and unpaid interest and other amounts payable thereunder, to be immediately due and payable. The lenders under our Available Loans also have the right, upon an event of default thereunder, to terminate any commitments they have to provide further borrowings. Further, following an event of default under the agreement governing our Available Loans, the lenders under the loan will have the right to proceed against the collateral granted to them to secure that debt. If the debt under an Available Loan was to be accelerated, the assets to secure the loan may not be sufficient to repay in full that debt or any other debt that may become due as a result of that acceleration.

Risks Relating to Ownership of Our Common Stock

The price of our common stock may be volatile and you could lose all or part of your investment.

Securities markets worldwide have experienced in the past, and are likely to experience in the future, significant price and volume fluctuations. Specifically, the oilfield services sector has recently experienced significant market volatility. This market volatility, as well as general economic, market or political conditions could reduce the market price of our common stock regardless of our results of operations. The trading price of our common stock may be highly volatile and could be subject to wide price fluctuations in response to various factors, including, among other things, the risk factors described herein and other factors beyond our control. Factors affecting the trading price of our common stock could include:

market conditions in the broader stock market;

actual or anticipated variations in our quarterly financial and operating results;

developments in the oil and natural gas industry in general or in the oil and natural gas services market in particular;

variations in operating results of similar companies;

introduction of new services by us, our competitors or our customers;

issuance of new, negative or changed securities analysts' reports, recommendations or estimates;

a decline in the number of securities analysts covering our company;

investor perceptions of us and the industries in which we or our customers operate, including perceptions of our ESG attributes;

sales, or anticipated sales, of our stock, including sales by our officers, directors and significant stockholders;

additions or departures of key personnel:

regulatory or political developments;

the public's response to press releases or other public announcements by us or third parties, including our filings with the SEC;

announcements, media reports or other public forum comments related to litigation, claims or reputational charges against us;

guidance, if any, that we provide to the public, any changes in this guidance or our failure to meet this guidance;

the sustainability of an active trading market for our common stock;

investor perceptions of the investment opportunity associated with our common stock relative to other investment alternatives;

other events or factors, including those resulting from system failures and disruptions, earthquakes, hurricanes, war, acts of terrorism, other natural disasters or responses to these events;

changes in accounting principles;

share-based compensation expense under applicable accounting standards;

litigation and governmental investigations; and

changing economic conditions

In addition, because our common stock is more thinly traded, its market price may fluctuate significantly more than the stock market in general or the stock prices of similar companies, which are exchanged, listed or quoted on Nasdaq or another stock exchange. We believe that approximately 29% of our shares of our common stock are held by non-affiliates as of December 31, 2022. Thus, our common stock will be less liquid than the stock of companies with broader public ownership, and as a result, the trading price for our stock than would be the case if our public float were larger.

These and other factors may cause the market price and demand for shares of our common stock to fluctuate substantially, which may limit or prevent investors from readily selling their shares of common stock and may otherwise negatively affect the liquidity of our common stock. In addition, in the past, when the market price of a stock has been volatile, holders of that stock sometimes have instituted securities class action litigation against the company that issued the stock. Securities litigation against us, regardless of the merits or outcome, could result in substantial costs and divert the time and attention of our management from our business, which could significantly harm our business, profitability and reputation.

We are controlled by the Advent Funds, whose interests may differ from those of our public stockholders.

We are controlled by funds (the "Advent Funds") managed by Advent, which beneficially own in the aggregate 61.4% of the combined voting power of our common stock. As a result of this ownership, Advent will have effective control over the outcome of votes on all matters requiring approval by our stockholders, including the election of directors, the adoption of amendments to our charter and bylaws and other significant corporate transactions.

In addition, persons associated with Advent currently serve on our board of directors (our "Board"). The interests of Advent may not always coincide with the interests of our other stockholders, and the concentration of effective control in Advent will limit other stockholders' ability to influence corporate matters. The concentration of ownership and voting power of Advent also may delay, defer or even prevent an acquisition by a third-party or other change of control and may make some transactions more difficult or impossible without their support, even if such events are in the best interests of our other stockholders.

Further, Advent may have an interest in having us pursue acquisitions, divestitures, financing or other transactions, including, but not limited to, the issuance of additional debt or equity and the declaration and payment of dividends, that, in its judgment, could enhance Advent's equity investments, even though such transactions may involve risk to us or to our creditors. Additionally, the Advent Funds may make investments in businesses that directly or indirectly compete with us, or may pursue acquisition opportunities that may be complementary to our business and, as a result, those acquisition opportunities may not be available to us.

Advent may take actions that our other stockholders do not view as beneficial, which may adversely affect our business, financial condition and results of operations and cause the value of your investment to decline

Advent and our directors affiliated with Advent, with certain exceptions, do not have obligations to present business opportunities to us and may compete with us.

Our Second Amended and Restated Certificate of Incorporation (as amended by the Certificate of Amendment, our "amended and restated certificate of incorporation") provides that Advent and our directors affiliated with Advent do not have any obligation to offer us an opportunity to participate in business opportunities presented to them even if the opportunity is one that we might reasonably have pursued (and therefore may be free to compete with us in the same business or similar businesses), and that, to the extent permitted by law, Advent and such directors, will not be liable to us or our stockholders for breach of any duty by reason of any such activities.

As a result, Advent or any of its managers, officers, directors, agents, stockholders, members, partners, affiliates and subsidiaries (other than us and our subsidiaries) will not be prohibited from investing in competing businesses or doing business with our clients. Therefore, we may be in competition with Advent and such persons or their respective affiliates, and we may not have knowledge of, or be able to pursue, transactions that could potentially be beneficial to us. Accordingly, we may lose certain corporate opportunities or suffer competitive harm, which could have a material adverse effect on our business, financial condition, results of operations or prospects.

Future sales of our common stock, or the perception in the public markets that these sales may occur, could cause the market price for our common stock to decline.

We may sell additional shares of common stock in subsequent public offerings. In addition, we currently have an effective shelf registration statement on file with the SEC to allow us to sell and certain requesting holders to resell shares of our common stock. We cannot predict the effect, if any, that such market sales of shares of our common stock or the availability of shares of our common

stock for sale will have on the market price of our common stock prevailing from time to time. Sales of substantial amounts of shares of our common stock in the public market, or the perception that those sales will occur, could cause the market price of our common stock to decline.

We have elected to take advantage of the "controlled company" exemption to the corporate governance rules for publicly-listed companies, which could make our common stock less attractive to some investors or otherwise harm our stock price.

Because we qualify as a "controlled company" under the corporate governance rules for publicly-listed companies on the Nasdaq Capital Market ("Nasdaq"), we are not required to have a majority of our Board be independent, nor are we required to have a compensation committee or a Board committee performing the Board nominating function. As permitted by our status as a controlled company, we may choose to change our Board composition, or the composition of the compensation, nominating and corporate governance committee. Accordingly, should the interests of the Advent Funds differ from those of other stockholders, the other stockholders may not have the same protections afforded to stockholders of companies that are subject to all of the corporate governance rules for publicly-listed companies. Our status as a controlled company could make our common stock less attractive to some investors or otherwise harm our stock price.

Anti-takeover protections in our amended and restated certificate of incorporation, our amended and restated bylaws or our contractual obligations may discourage or prevent a takeover of our company, even if an acquisition would be beneficial to our stockholders.

Provisions contained in our amended and restated certificate of incorporation and amended and restated bylaws, as amended, as well as provisions of the Delaware General Corporation Law (the "DGCL"), could delay or make it more difficult to remove incumbent directors or could impede a merger, takeover or other business combination involving us or the replacement of our management or discourage a potential investor from making a tender offer for our common stock, which, under certain circumstances, could reduce the market value of our common stock, even if it would benefit our stockholders.

In addition, our Board has the authority to cause us to issue, without any further vote or action by the stockholders, up to 10,000,000 shares of preferred stock, par value \$0.01 per share, in one or more series, to designate the number of shares constituting any series, and to fix the rights, preferences, privileges and restrictions thereof, including dividend rights, voting rights, rights and terms of redemption, redemption price or prices and liquidation preferences of such series. The issuance of shares of preferred stock or the adoption of a stockholder rights plan may have the effect of delaying, deferring or preventing a change in control of our company without further action by the stockholders, even where stockholders are offered a premium for their shares.

In addition, under the agreement governing our ABL Facility, a change of control would cause an event of default to occur and the lenders under the facility would have the right to accelerate their loans, and if so accelerated, we would be required to repay all of our outstanding obligations under our ABL Facility. In addition, from time to time we may enter into contracts that contain change of control provisions that limit the value of, or even terminate, the contract upon a change of control. These change of control provisions may discourage a takeover of our company, even if an acquisition would be beneficial to our stockholders.

We are a "smaller reporting company" and have elected to comply with reduced reporting requirements, which could make our common stock less attractive to investors.

We are currently a "smaller reporting company," meaning that we are not an investment company, an asset-backed issuer, or a majority-owned subsidiary of a parent company that is not a smaller reporting company and have a public float of less than \$250 million. "Smaller reporting companies" are exempt from the auditor attestation requirements of Section 404(b) of Sarbanes-Oxley Act of 2002; have reduced disclosure obligations regarding executive compensation in periodic reports and proxy statements; and have certain other decreased disclosure obligations in their SEC filings, including, among other things, only being required to provide two years of audited financial statements in annual reports. In the event we are no longer a "smaller reporting company," our legal, accounting and other expenses may further increase as we will no longer qualify for an exemption from the auditor attestation requirements of Section 404(b) of Sarbanes-Oxley Act of 2002.

Decreased disclosures in our SEC filings due to our status as a "smaller reporting company" may make it harder for investors to analyze our results of operations and financial prospects.

We may identify material weaknesses or otherwise fail to maintain an effective system of internal controls, which may result in material misstatements of our financial statements or cause to us to fail to meet our reporting obligations or fail to prevent fraud; which would harm our business and could negatively impact the price of our common stock.

Effective internal controls are necessary for us to provide reliable financial reports and prevent fraud. If we fail to maintain an effective system of internal controls, we might not be able to report on our financial results accurately or prevent fraud; which would harm our business and could negatively impact the price of our common stock. Any material weakness in our internal control over

financial reporting could result in a material misstatement of our annual or interim consolidated financial statements that may not be prevented or detected on a timely basis.

In addition, an independent registered public accounting firm has never performed an evaluation of our internal control over financial reporting in accordance with the provisions of the Sarbanes-Oxley Act of 2002 because no such evaluation has been required. Had our independent registered public accounting firm performed an evaluation of our internal control over financial reporting in accordance with the provisions of the Sarbanes-Oxley Act of 2002, material weaknesses may have been identified. If we are unable to prevent or remediate any material weakness in our internal control over financial reporting, or identify any additional material weaknesses that may exist, the accuracy and timing of our financial reporting may be adversely affected, we may be unable to maintain compliance with securities law requirements regarding timely filing of periodic reports in addition to applicable stock exchange listing requirements, we may be unable to prevent fraud, investors may lose confidence in our financial reporting, and our stock price may decline as a result. Additionally, our reporting obligations as a public company could place a strain on our management, operational and financial resources and systems for the foreseeable future and may cause us to fail to timely achieve and maintain the adequacy of our internal control over financial reporting.

Our amended and restated certificate of incorporation provides, subject to certain exceptions, that the Court of Chancery of the State of Delaware will be the sole and exclusive forum for certain stockholder litigation matters, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers, employees or stockholders.

Our amended and restated certificate of incorporation provides, subject to limited exceptions, that the Court of Chancery of the State of Delaware will, to the fullest extent permitted by law, be the sole and exclusive forum for (i) any derivative action or proceeding brought on our behalf; (ii) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers or other employees to us or our stockholders; (iii) any action asserting a claim against us, any provision of the DGCL, our certificate or our amended and restated by-laws; or (iv) any action asserting a claim against us, any director or our officers or employees arising pursuant to any provision of the DGCL, our amended and restated by-laws; or (iv) any action asserting a claim against us, any director or our officers or employees arising pursuant to any provision of the unit of the provision of our certificate described above. This choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or any of our directors, officers, other employees or stockholders which may discourage lawsuits with respect to such claims. Alternatively, if a court were to find the choice of forum provision that will be contained in our certificate to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could have a material adverse effect on our business, financial condition and results of operations.

Application of the choice of forum provision may be limited in some instances by law. Section 27 of the Exchange Act provides for exclusive federal court jurisdiction over Exchange Act claims. Accordingly, to the extent the exclusive forum provision is held to cover a stockholder derivative action asserting claims under the Exchange Act, such claims could not be brought in the Court of Chancery of the State of Delaware and would instead be within the jurisdiction for the Tederal district court for the District of Delaware. Section 22 of the Securities Act of 1933, as amended ("Securities Act") creates concurrent jurisdiction for federal and state courts over all suits brought to enforce any duty or liability created by the Securities Act or the rules and regulations thereunder. Moreover, our stockholders will not be deemed by operation of our choice of forum provision to have waived our compliance with the federal securities laws and the regulations promulgated thereunder. It is also possible that, notwithstanding the forum selection clause, a court could rule that such a provision is inapplicable or unenforceable, which could adversely impact our results of operations, financial position and cash flows.

Public and investor sentiment towards climate change, fossil fuels and other ESG matters could adversely affect our cost of capital, availability of capital and the price of our common stock.

There have been intensifying efforts within the investment community (including investment advisors, investment fund managers, sovereign wealth funds, public pension funds, universities and individual investors) to promote the divestment of, or limit investment in, the stock of companies in the oil and gas industry. There has also been pressure on lenders and other financial services companies to limit or curtail financing of companies in the oil and gas industry, if these efforts continue or expand, our stock price and our ability to raise capital may be negatively impacted. Members of the investment community are increasing their focus on ESG practices and disclosures by public companies, including practices and disclosures related to climate change and sustainability, diversity, equity and inclusion initiatives, and heightened governance standards. As a result, we may continue to face increasing pressure regarding our ESG disclosures and practices. These pressures have intensified recently in connection with the COVID-19 pandemic, significant societal events and the efforts of current administrations in the United States and Canada to mitigate climate change.

Item 1B. Unresolved Staff Comments

None

Item 2. Properties

Our corporate headquarters is located at 19350 State Highway 249, Suite 600, Houston, Texas 77070. We currently own one property, located in Calgary, Alberta, which is used for our engineering and research and development activities. In addition to our property in Calgary, Alberta, we also lease 19 properties with terms greater than 12 months that are used for our corporate headquarters, sales offices, manufacturing, engineering, district operations, laboratory, warehousing and storage yards. All of these properties are leased from third parties. We believe that these facilities are adequate for our current operations and that none of our leases are individually material to our business.

Item 3. Legal Proceedings

See "Note 10. Commitments and Contingencies" of our consolidated financial statements for further information regarding our legal proceedings.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

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

Market Information

Our common stock trades on the Nasdaq Capital Market under the symbol "NCSM".

See Part III, Item 12. "Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters" for information regarding shares of common stock authorized for issuance under our stock incentive plans.

Holders

On March 3, 2023, we had 2,438,877 shares of common stock outstanding, which were held by approximately 17 record holders. The actual number of stockholders is considerably greater than this number of record holders, and includes stockholders who are beneficial owners but whose shares are held in street name by brokers and other nominees.

Dividends

We do not intend to pay cash dividends on our common stock in the foreseeable future. However, in the future, we may change this policy and choose to pay dividends. Any future determination to pay dividends will be at the discretion of our Board and will take into account restrictions in our debt instruments, including our ABL Facility, general economic and business conditions, our net income, financial condition and results of operations, our capital requirements, our prospects, the ability of our operating subsidiaries to pay dividends and make distributions to us, legal restrictions and such other factors as our Board may deem relevant.

Performance Graph

As we are a "smaller reporting company," for the year ended December 31, 2022, we are not required to provide the performance graph under Item 201(e) of Regulation S-K.

Unregistered Sales of Equity Securities and Use of Proceeds

None

Issuer Purchases of Equity Securities

None.

Item 6. [Reserved]

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

The following is a discussion and analysis of our financial condition and results of operations as of, and for, the periods presented. You should read the following discussion and analysis of our financial condition and results of operations together with the sections entitled Item 1A. "Risk Factors," "—Cautionary Note Regarding Forward-Looking Statements," and our consolidated financial statements and related notes thereto included elsewhere in this Form 10-K. This section and other parts of the Form 10-K contain forward-looking statements regarding the industry outlook, estimates and assumptions concerning events and financial and industry trends that may affect our future results of operations or financial condition and other non-historical statements. These forward-looking statements are subject to numerous risks and uncertainties, including but not limited to the risks and uncertainties described in "—Cautionary Note Regarding Forward-Looking Statements" and Item 1A. "Risk Factors." Our actual results may differ materially from those contained in or implied by these forward-looking statements.

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We are a leading provider of highly engineered products and support services that facilitate the optimization of oil and natural gas well construction, well completions and field development strategies. We provide our products and services primarily to E&P companies for use in onshore and offshore wells, predominantly wells that have been drilled with horizontal laterals in both unconventional and conventional oil and natural gas formations. Our products and services are utilized in oil and natural gas basins throughout North America and in selected international markets, including Argentina, China, the Middle East and the North Sea. We provided our products and services to over 245 customers in 2022, including leading large independent oil and natural gas companies and major oil companies.

Our primary offering is our fracturing systems products and services, which enable efficient pinpoint stimulation: the process of individually stimulating each entry point into a formation targeted by an oil or natural gas well. Our fracturing systems products and services can be used in both cemented and open-hole wellbores and enable our customers to precisely place stimulation treatments in a more controlled and repeatable manner as compared with traditional completion techniques. Our fracturing systems products and services are utilized in conjunction with third-party providers of pressure pumping, coiled tubing and other services.

We own a 50% interest in Repeat Precision, which sells composite frac plugs, perforating guns and related products. We provide tracer diagnostics services for well completion and reservoir characterization that utilize downhole chemical and radioactive tracers. We sell products for well construction, including casing buoyancy systems, liner hanger systems and toe initiation sleeves. We offer enhanced recovery systems, which enable our customers to inject water, other fluids, or gases in a controlled manner with the objective of increasing the amount of hydrocarbons produced from their assets. We operate in one reportable segment that has been identified based on how our chief operating decision maker manages our business.

Outlook

Our products and services are primarily sold to North American E&P companies and our ability to generate revenues from our products and services depends upon oil and natural gas drilling and completion activity in North America. Oil and natural gas drilling and completion activity is directly influenced by oil and natural gas prices.

Drilling and completion activity in the United States and Canada has increased steadily since falling to multi-decade lows in late 2020, as the global economy and oil and natural gas demand have recovered from the impact of the COVID-19 pandemic. While U.S. drilling and completion activity remains slightly lower than it was prior to the COVID-19 pandemic, the Canadian rig count surpassed comparable 2019 levels in the third quarter of 2021 and has remained above comparable 2019 levels since that time. Customer activity has continued to increase in 2022, with the U.S. and Canadian rig counts in the fourth quarter of 2022 higher by 39% and 18%, respectively, compared to the same period as 2021.

Based on E&P company announced capital budgets for 2023, we believe that annual average industry drilling and completion activity in the United States and Canada in 2023 will be equal to 2022 levels or higher by up to 10%, however, activity in the United States in 2023 may be lower than levels reached in the fourth quarter of 2022, reflecting rapid reductions in natural gas pricing in late 2022 and early 2023. We currently expect international industry activity to improve by over 10% in 2023 as compared to 2022. Many of our customers in North America continue to be committed to generating free cash flow while maintaining production at recent levels, while privately-owned operators have increased activity in recent years in response to improved commodity prices, contributing most of the activity increases since late 2020. Oil and natural gas prices were volatile in 2022, with increased spot pricing following Russia's invasion of Ukraine in late February which decreased in the second half of the year due to increased uncertainty in demand and mounting concerns about a global economic recession. We have no material direct exposure to Russia or Ukraine, though we are affected by economic impacts resulting from the conflict, especially on raw material pricing and availability.

Despite the recent and expected improvements in industry activity levels, we continue to face intense competitive pressure across all of our product and services offerings, which may negatively impact our market share, our operating margins and our ability to increase prices in an inflationary environment.

Beginning in late 2021 and continuing throughout 2022, we experienced higher prices for certain raw materials, including steel and chemicals, and for purchased components and outsourced services, exacerbated by the impacts resulting from Russia's continuing invasion of Ukraine. While we have increased customer prices because of our higher raw material and component costs, the increase in customer prices have not always offset our higher input costs and there has been a time lag in our ability to do so. If we experience even higher costs in 2023, we will strive to achieve further price increases with our customers, however, we are not always able to do so and, if we can, the impact of such price increases may lag the timing of cost increases. During this time, we also began to experience tight labor conditions which has led to increased employee turnover, delays in filling open positions and labor cost inflation, which impacts both our cost of sales and selling, general and administrative ("SG&A") expenses. This labor cost inflation, which continued throughout 2022 and continues into 2023, has resulted in higher salaries, hourly pay rates and benefit costs.

In an effort to reduce inflationary pressures on the economy, central banks, including the U.S. Federal Reserve, has increased reference interest rates, an action which typically has the effect of increasing borrowing costs and restraining economic activity. There is a possibility that these actions could not only reduce the rate of global economic growth, but could lead to a recessionary environment in certain economies, including Europe and the United States. Any decline in economic activity resulting from such actions could result in moderating or declining demand for oil and natural gas. In addition, in 2022 the U.S. dollar strengthened relative to other currencies, including the Canadian dollar. Over 60% of our revenue is generated in Canada, and reductions in the value of the Canadian dollar as compared to the U.S. dollar, our reporting currency, result in lower reported revenue and gross profit, partially offset by lower reported SG&A expense.

COVID-19 Impacts on the Oil & Natural Gas Market and NCS Multistage

In 2020, the COVID-19 pandemic and associated actions taken around the world to mitigate the spread of COVID-19 caused unprecedented declines in economic activity, energy demand and oil and natural gas prices. As a result of the COVID-19 pandemic, there was a significant reduction in global gross domestic product ("GDP") in 2020, and a decrease in demand for crude oil, which began to recover in 2021 as vaccines became available and mitigation measures eased. While there has been a significant recovery in demand for crude oil since 2020, demand is still below the 2019 levels and is not expected to reach back to pre-COVID levels until 2023. In response to these economic factors, OPEC+ members acted collectively to reduce oil production and E&P companies in North America reduced their capital spending budgets. This also led to consolidation amongst E&P companies, especially large, independent publicly-traded E&P companies, and this included customers for which we have provided products and services.

In 2020, we implemented several initiatives to reduce our costs restructure and to enhance liquidity, as more fully described in our Annual Report on Form 10-K for the year ended December 31, 2021. Those initiatives included reductions in force and temporary reductions in compensation and certain benefits. In early 2022, we substantially restored or increased employee compensation and benefits to pre-2020 levels.

The continuing impacts of the COVID-19 pandemic are contributing to occasional supply chain disruptions, particularly in China, although the Chinese government's COVID-19 mitigation measures have recently been relaxed. Cost inflation, including labor cost inflation, continues through 2022 and into 2023. Therefore, we have qualified additional suppliers to provide materials, components and services for which supply lines have been impacted or for which delivery times have increased.

Market Conditions

Oil and Natural Gas Drilling and Completion Activity

Oil and natural gas prices remain volatile, with WTI crude oil pricing rising throughout 2021 to approximately \$75/BBL at the end of December 2021. WTI crude oil pricing continued to increase in the first half of 2022 to over \$100/BBL following Russia's invasion of Ukraine. However, WTI crude oil pricing average decreased to approximately \$83/BBL during the fourth quarter of 2022 reflecting an overall weaker macroeconomic environment and its potential impact on lowering demand. During 2022, to address the uncertain outlook in the global economic and oil markets, OPEC+ members agreed to a collective voluntary oil production reduction of 2 MMBBL/D beginning in November 2022 through December 2023.

Natural gas pricing increased throughout 2021 to an average level of \$3.89 per MMBtu and further increased to an average level of \$6.45 per MMBtu during 2022. Realized natural gas prices for Canadian E&P customers are typically at a discount to U.S. Henry Hub pricing. Natural gas pricing in the United States has been supported by increased demand for exports of liquified natural gas ("LNG") in late 2021 and early 2022, especially for power generation in Europe and Asia, reflecting European demand for LNG sourced from the United States and other regions to diversify supply historically provided by Russia. At the end of September 2022, natural gas pricing reached a level of \$6.40 per MMBtu, but declined to as low as \$3.52 per MMBtu in December 2022 due to overall

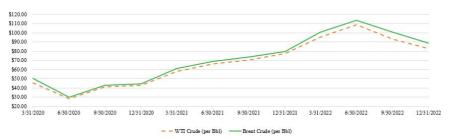
warm winter weather conditions and extended downtime at an LNG export facility, which decreased near-term demand and has led to robust levels of natural gas in storage. Natural gas pricing has continued to decline in early 2023, which may negatively impact drilling and completion activity in certain regions.

Sustained meaningful declines in commodity prices from current levels, or sustained periods when the local pricing received in regional markets is below benchmark pricing, known in the industry as high differentials, would be expected to lead North American E&P companies to reduce drilling and completion activity, which could negatively impact our business.

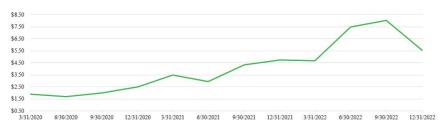
Listed and depicted below are recent crude oil and natural gas pricing trends, as provided by the Energy Information Administration ("EIA") of the U.S. Department of Energy:

		Average Trice	
Quarter Ended	WTI Crude (per Bbl)	Brent Crude (per Bbl)	Henry Hub Natural Gas (per MMBtu)
3/31/2020	\$ 45.54	\$ 50.45	\$ 1.90
6/30/2020	27.96	29.70	1.70
9/30/2020	40.89	42.91	2.00
12/31/2020	42.52	44.32	2.52
3/31/2021	58.09	61.04	3.50
6/30/2021	66.19	68.98	2.95
9/30/2021	70.58	73.51	4.35
12/31/2021	77.33	79.61	4.75
3/31/2022	95.18	100.87	4.67
6/30/2022	108.83	113.84	7.50
9/30/2022	93.06	100.71	8.03
12/31/2022	82.79	88.72	5.55

Crude Oil (per Bbl)



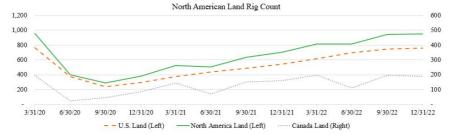
Henry Hub Natural Gas (per MMBtu)



Henry Hub Natural Gas (per MMBtu)

Listed and depicted below are the average number of operating onshore rigs in the United States and in Canada per quarter since the first quarter of 2020, as provided by Baker Hughes. The quarterly changes in the Canadian land rig count can be partially attributed to seasonality of activity in that market:

	Average Drilling Rig Count					
Quarter Ended	U.S. Land	Canada Land	North America Land			
3/31/2020	764	194	958			
6/30/2020	378	23	401			
9/30/2020	241	46	287			
12/31/2020	297	88	385			
3/31/2021	378	144	522			
6/30/2021	437	71	508			
9/30/2021	484	150	634			
12/31/2021	545	159	704			
3/31/2022	618	198	816			
6/30/2022	698	112	810			
9/30/2022	744	198	942			
12/31/2022	760	187	947			



Over the past several years, North American E&P companies have been able to reduce their cost structures and have also utilized technologies, including ours, to increase efficiency and improve well performance. The average U.S. land rig count and completion activity have continued to increase from lows reached in late 2020, with the U.S. land rig count averaging 760 during the fourth quarter of 2022, a 39% increase compared to the fourth quarter of 2021. The average land rig counts and completion activity to continue to rise in 2023 compared to prior year levels. We expect average annual drilling and completion activity in the United States to exceed prior year levels, but to be below the levels reached during the fourth quarter of 2022.

A substantial portion of our business is subject to quarterly variability. In Canada, we typically experience higher activity levels in the first quarter of each year, as our customers take advantage of the winter freeze to gain access to remote drilling and production areas. In the past, our revenue in Canada has declined during the second quarter due to warming weather conditions that result in thawing, softer ground, difficulty accessing well sites and road bans that curtail drilling and completion activity. Access to well sites typically improves throughout the third and fourth quarters in Canada, leading to activity levels that are higher than in the second quarter, but usually lower than activity in the first quarter. As we experienced in the fourth quarter of 2022, our business can be impacted by a reduction in customer activity during the winter holidays in late December and early January. In recent years, many customers in the United States and Canada exhausted their capital budgets prior to the end of the year, leading to reductions in drilling and completion activity during the fourth quarter.

Adoption of Pinpoint Stimulation

Traditional well completion techniques, including plug and perf and ball drop, currently account for the majority of unconventional well completions in North America and over 90% of unconventional well completions in the United States. We believe that pinpoint stimulation provides benefits compared to these traditional well completion techniques. Our ability to grow our market share, as evidenced by the percentage of horizontal wells in North America completed using our products and services, will depend in large part on the industry's further adoption of pinpoint stimulation to complete wells, our ability to continue to innovate

our technology to compete against technological advances in traditional well completion techniques, and our ability to successfully compete with other providers of pinpoint stimulation products and services, including adjusting our pricing in certain markets to respond to customer demands and to competitors that may provide discounted pricing to our customers.

Increasing Well Complexity and Focus on Completion Optimization

In recent years, E&P companies have drilled longer horizontal wells and completed more hydraulic fracturing stages per well to maximize the volume of hydrocarbon recoveries per well. This trend towards longer and more complex wells has resulted in us selling more sliding sleeves or composite frac plugs per well on average, which increases our revenue opportunity per well completion and has supported sales of our casing buoyancy systems. Additionally, E&P companies have become increasingly focused on well productivity through optimization of completion designs and we believe this trend may further the adoption of pinpoint stimulation, and in turn, increase the opportunity for sales of our products and services if our customers observe operational benefits and long-term production results from the application of pinpoint stimulation. This trend towards more complex well completions provides opportunities for tracer diagnostics services, which can be utilized to assess the effectiveness of various well completion techniques and well spacing strategies in support of completion and field development optimization efforts. However, as the development of unconventional resources has matured, E&P companies have become increasingly focused on operational efficiencies and lowering the cost of the wells they drill and complete. This focus on cost has led to increased competition amongst oilfield services companies, limiting pricing power, and in some cases leading to E&P companies selecting products and services primarily based on cost as opposed to technical benefits.

How We Generate Revenue

We derive our revenues from the sale of our fracturing systems and enhanced recovery systems products and the provision of related services, the sale of composite frac plugs, perforating guns and related products through Repeat Precision, and from sales of our tracer diagnostics services, casing buoyancy systems, liner hanger systems and toe initiation sleeves products.

Product sales represented 68% and 70% of our revenues for the years ended December 31, 2022 and 2021, respectively. Most of our sales are on a just-in-time basis, as specified in individual purchase orders, with a fixed price for our products. We occasionally supply our customers with large orders that may be filled on negotiated terms. Services represented 32% and 30% of our revenues for the years ended December 31, 2022 and 2021, respectively. Services include our tool charges and associated services related to our fracturing systems and tracer diagnostics services (which are classified together as "services" in our financial results). Services are provided at agreed upon rates to customers for the provision of our downhole frac isolation assembly, our personnel and for the provision of tracer diagnostics services.

During periods of low drilling and well completion activity or as may be needed to compete in certain markets we will, in some instances, lower the prices of our products and services. Our revenues are also impacted by well complexity, with wells with more stages resulting in longer jobs and increased revenue attributable to selling more sliding sleeves or composite frac plugs and the provision of our services.

The percentages of our revenues derived from sales in Canada and denominated in Canadian dollars were approximately 65% and 62% for the years ended December 31, 2022 and 2021, respectively. Our Canadian contracts are typically invoiced in Canadian dollars; therefore, the effects of foreign currency fluctuations impact our revenues and are regularly monitored.

Although most of our sales are to North American E&P companies, we also have sales to customers outside of North America, and we expect sales to international customers to increase over time. These international sales are made through local NCS entities or to our local operating partners on a free on board or free carrier basis with a point of sale in the United States. Some of the locations in which we have operating partners or sales representatives include China and the Middle East. Our operating partners and representatives do not have authority to contractually bind NCS but market our products in their respective territories as part of their product or services offering.

Costs of Conducting our Business

Our cost of sales is comprised of expenses relating to the manufacture of our products in addition to the costs of our support services. Manufacturing cost of sales includes payments made to our suppliers for raw materials and payments made to machine shops for the manufacture of product components and finished assemblies and costs related to our employees that perform quality control analysis, assemble and test our products. In addition, Repeat Precision operates manufacturing facilities with supporting personnel in Mexico, which had allowed us to reduce our costs for certain product categories. We review forecasted activity levels in our business and either directly procure or support our vendors in procuring the required raw materials with sufficient lead time to meet our business requirements. We obtain certain chemicals utilized in our tracer diagnostics services business from suppliers in China, which are subject to a 25% tariff, which increases our cost of sales. Prices for certain raw materials, including steel and chemicals and for purchased components and outsourced services, have increased in recent years due to inflation, exacerbated by the impacts resulting

from Russia's continuing invasion of Ukraine. Cost of sales for support services includes compensation and benefit-related expenses for employees who provide direct revenue generating services to customers in addition to the costs incurred by these employees for travel and subsistence while on site. Cost of sales includes other variable manufacturing costs, such as shrinkage, obsolescence, revaluation and scrap related to our existing inventory and costs related to the chemicals and laboratory analysis associated with our tracer diagnostics services.

Our SG&A expenses are comprised of compensation expense, which includes compensation and benefit-related expenses for our employees who are not directly involved in revenue generating activities, including those involved in our research and development activities, as well as our general operating costs. These general operating costs include, but are not limited to: rent and occupancy for our facilities, information technology infrastructure services, software licensing, advertising and marketing, third party research and development, risk insurance and professional service fees for audit, legal and other consulting services. Our SG&A expenses also include litigation expenses and provisions for doubtful accounts.

During 2021, we began to experience tight labor conditions which has led to increased employee turnover, delays in filling open positions and labor cost inflation, which impacts both our cost of sales and our SG&A expenses. This labor cost inflation, which continued through 2022 and into 2023, has resulted in increased salaries, hourly pay rates and benefit costs.

The percentage of our operating costs denominated in Canadian dollars (including cost of sales and SG&A expenses but excluding depreciation and amortization expense) approximated 27% and 25%, for the years ended December 31, 2022 and 2021, respectively.

Results of Operations

The following table summarizes our results of operations for the years ended December 31, 2022 and 2021.

		Year Ended	December 31,	Varia	Variance		
	·	2022	2021	s	%		
Revenues	· 						
Product sales	\$	105,859	\$ 83,223	\$ 22,636	27.2 %		
Services		49,773	35,279	14,494	41.1 %		
Total revenues		155,632	118,502	37,130	31.3 %		
Cost of sales							
Cost of product sales, exclusive of depreciation and amortization expense shown below		68,412	51,897	16,515	31.8 %		
Cost of services, exclusive of depreciation							
and amortization expense shown below		26,816	18,130	8,686	47.9 %		
Total cost of sales, exclusive of depreciation	·						
and amortization expense shown below		95,228	70,027	25,201	36.0 %		
Selling, general and administrative expenses	·	58,338	49,094	9,244	18.8 %		
Depreciation		3,650	3,832	(182)	(4.7)%		
Amortization		669	669	_	— %		
Loss from operations	'	(2,253)	(5,120)	2,867	56.0 %		
Other income (expense)	· 						
Interest expense, net		(1,015)	(733)	(282)	(38.5)%		
Other income, net		2,950	2,054	896	43.6 %		
Foreign currency exchange (loss) gain		(283)	283	(566)	(200.0)%		
Total other income		1,652	1,604	48	3.0 %		
Loss before income tax		(601)	(3,516)	2,915	82.9 %		
Income tax expense		351	263	88_	33.5 %		
Net loss	·	(952)	(3,779)	2,827	74.8 %		
Net income attributable to non-controlling interest		150	955	(805)	(84.3)%		
Net loss attributable to NCS Multistage Holdings, Inc.	\$	(1,102)	\$ (4,734)	\$ 3,632	76.7 %		

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

Revenue

Revenues were \$155.6 million for the year ended December 31, 2022 as compared to \$118.5 million for the year ended December 31, 2021. This increase reflected higher product sales and services volumes in Canada and the United States as well as higher international services volumes, partially offset by a decrease in international product sales, for which individual orders can be larger and less frequent. We believe the overall increase in revenues largely resulted from higher drilling and completion activity in

2022 as compared to 2021, particularly in North America, attributable primarily to higher oil and natural gas demand and more favorable commodity prices. Product sales for the year ended December 31, 2022 were \$105.9 million as compared to \$83.2 million for the year ended December 31, 2021. Our services revenue was \$49.8 million for the year ended December 31, 2021 as compared to \$35.3 million for the year ended December 31, 2021.

Cost of sales

Cost of sales was \$95.2 million, or 61.2% of revenues, for the year ended December 31, 2022 as compared to \$70.0 million, or 59.1% of revenues, for the year ended December 31, 2021. Cost of sales as a percentage of total revenues was higher between the years due to increased costs impacting our supply chain, including raw materials, purchased materials, labor costs and outsourced service activity as well as a decrease in international revenue as a percentage of our total revenue. Labor costs for 2021 were reduced due to the U.S. employee retention credit ("ERC"), which did not recur in 2022. See "Note 10. Commitments and Contingencies" of our consolidated financial statements. The decline was partially offset by increased revenues and higher utilization of manufacturing capacity and field service personnel. Cost of product sales was \$68.4 million or 63.9% of services revenue and cost of services was \$26.8 million or 53.9% of services revenue for the year ended December 31, 2022. For the year ended December 31, 2021, cost of product sales was \$51.9 million or 62.4% of product sales revenue and cost of services was \$18.1 million or 51.4% of services revenue.

Selling, general and administrative expenses

Selling, general and administrative expenses were \$58.3 million for the year ended December 31, 2022 as compared to \$49.1 million for the year ended December 31, 2021. This overall increase in expense reflects increased compensation and benefit costs of \$6.4 million primarily associated with the reinstatement of certain salaries in mid-2021, increased headcount, salary increases implemented during the first quarter of 2022, the restoration of employer matching contributions to employee retirement plans in January 2022 and a benefit of \$2.3 million in 2021 associated with the ERC, which did not recur in 2022. See "Note 10. Commitments and Contingencies" of our consolidated financial statements. In addition, professional fees, primarily related to litigation matters, increased by \$1.7 million and travel and entertainment increased by \$0.8 million. The increases were partially offset by lower share-based compensation expense of \$0.6 million.

Interest expense, net

Interest expense, net was \$1.0 million for the year ended December 31, 2022 as compared to \$0.7 million for the year ended December 31, 2021. The increase in interest expense, net reflects a \$0.2 million write-off of deferred loan costs associated with the termination of the Prior Senior Secured Credit Facility, which was replaced by an ABL Facility.

Other income net

Other income, net was \$3.0 million for the year ended December 31, 2022 as compared to \$2.1 million for the year ended December 31, 2021. The increase is primarily attributable to royalties earned on the use of our intellectual property and profit share associated with our technical services and assistance agreement with Special Oilfield Services Co., LLC ("SOS").

Foreign currency exchange (loss) gain

Foreign currency exchange loss was \$(0.3) million for the year ended December 31, 2022 as compared to a gain of \$0.3 million for the year ended December 31, 2021. The change was due to the movement in the foreign currency exchange rates between the periods, primarily the Canadian dollar relative to the U.S. dollar.

Income tax expense

Income tax expense was \$0.4 million for the year ended December 31, 2022 as compared to \$0.3 million for the year ended December 31, 2021.

Included in tax expense (benefit) for the year ended December 31, 2022 was a benefit of \$(4.1) million related to changes in valuation allowance on deferred tax assets not expected to be realized, an expense of \$0.4 million related to stock awards, a benefit of \$(0.1) million related to the effects of taxes on foreign operations, and an expense of \$0.6 million related to state taxes.

Included in tax expense (benefit) for the year ended December 31, 2021, was an expense of \$1.0 million for tax effects of stock awards and a benefit of \$(0.2) million related to effects of taxes on foreign operations.

How We Evaluate our Results of Operations

Our management uses a variety of financial and operating metrics to analyze our performance. These metrics are significant factors in assessing our results of operations and profitability and include:

We primarily sell our products and services under purchase orders with pricing negotiated with individual customers. Our revenues are generated primarily from the sales of our fracturing systems, enhanced recovery systems, well construction and composite plug and perforating gun products and from services related to the utilization of our downhole frac isolation assembly as well as from the provision of tracer diagnostics services. We compare our actual revenue performance on a monthly, quarterly and annual basis to our annual budget, our most recent estimate for the relevant period, and to applicable market metrics.

Adjusted EBITDA and Adjusted EBITDA Less Share-Based Compensation

EBITDA is defined as net (loss) income before interest expense, net, income tax expense and depreciation and amortization. Adjusted EBITDA is defined as EBITDA adjusted to exclude certain items which we believe are not reflective of ongoing operating performance or which, in the case of share-based compensation, is non-cash in nature. Adjusted EBITDA Less Share-Based Compensation is defined as Adjusted EBITDA, with the sole exception being that it does not add back non-cash share-based compensation expense. We believe that Adjusted EBITDA is an important measure that excludes costs that management believes do not reflect our ongoing operating performance and certain costs associated with our capital structure. We believe that Adjusted EBITDA Less Share-Based Compensation presents our financial performance in a manner that is comparable to the presentation provided by many of our peers. Accordingly, Adjusted EBITDA and Adjusted EBITDA Less Share-Based Compensation are key metrics that management uses to assess the period-to-period performance of our core business operations. We believe that presenting these metrics enables investors to assess our performance from period to period using the same metrics utilized by management and to evaluate our performance relative to other companies that are not subject to such factors. EBITDA, Adjusted EBITDA and Adjusted EBITDA Less Share-Based Compensation are not defined under GAAP, are not measures of net income, income from operations or any other performance measure derived in accordance with GAAP and are subject to important limitations. Adjusted EBITDA and Adjusted EBITDA and Adjusted EBITDA and Adjusted EBITDA and EBITDA a measures of performance calculated in accordance with GAAP.

A reconciliation of net (loss) income, the most directly comparable GAAP measure, to Adjusted EBITDA and Adjusted EBITDA Less Share-Based Compensation on a consolidated basis for the periods indicated follows (in thousands)

		Year Ended December 31,		
		2022		2021
Net loss	\$	(952)	\$	(3,779)
Income tax expense		351		263
Interest expense, net		1,015		733
Depreciation		3,650		3,832
Amortization		669		669
EBITDA	· · · · · · · · · · · · · · · · · · ·	4,733		1,718
Share-based compensation (1)		3,453		4,221
Professional fees (2)		5,665		4,885
Net benefit of ERC (3)		_		(1,908)
Foreign currency loss (gain) (4)		283		(283)
Other (5)		976		461
Adjusted EBITDA	\$	15,110	\$	9,094
Adjusted EBITDA Less Share-Based Compensation	\$	11,657	\$	4,873

- Represents non-eash compensation charges related to share-based compensation granted to our officers, employees and directors.

 Represents non-capitalizable costs of professional services incurred in connection with our financings, legal proceedings and the evaluation of potential acquisitions.

 Represents ERC benefits recorded during 2021 less the effect on bonus and associated payroll burden accruals.

- Represents are colerns recorded utining 2021 ress the effect of boilus and associated paylor officient accusas.

 Represents unrealized and realized foreign currency translation gains and lossociated paylor officient in the foreign exchange rates during the applicable periods.

 Represents the impact of a research and development subsidy that is included in income tax expense (benefit) in accordance with GAAP along with other charges and credits.

Free Cash Flow and Free Cash Flow Less Distributions to Non-Controlling Interest

We utilize free cash flow to evaluate the cash generated by our operations and results of operations. We define free cash flow as net cash provided by (used in) operating activities less purchases of property and equipment (inclusive of the purchase and development of software and technology) plus proceeds from sales of property and equipment, as presented in our consolidated statement of cash flows. Management believes free cash flow is useful because it provides information to investors regarding the cash that was available in the period that was in excess of our needs to fund our capital expenditures and other investment needs. We define free cash flow less distributions to non-controlling interest as free cash flow (as defined above) less distributions to non-controlling interest as free cash flow less distributions to non-controlling interest is useful because it provides information to investors regarding the cash that was available in the period that was in excess of our needs to fund our capital expenditures, other investment needs, and cash distributions to non-controlling interest do not represent our residual cash flow available for discretionary expenditures, as we have non-discretionary expenditures, including, but not limited to, repayment of outstanding balances under our ABL Facility, that are not deducted in calculating either free cash flow or free cash flow less distributions to non-controlling interest do not represent our residual cash flow or free cash flow less distributions to non-controlling interest are non-GAAP financial measures and should not be considered as an alternative to cash provided by operating activities as a cash flow measurement.

A reconciliation of net cash provided by (used in) operating activities, the most directly comparable GAAP measure, to each of free cash flow and free cash flow less distributions to non-controlling interest for the periods indicated is as follows (in thousands):

	 Year Ended December 31,		
	2022		2021
Net cash (used in) provided by operating activities	\$ (1,423)	\$	11,583
Purchases of property and equipment	(1,035)		(495)
Purchase and development of software and technology	(96)		(338)
Proceeds from sales of property and equipment	433		389
Free cash flow	\$ (2,121)	\$	11,139
Distributions to non-controlling interest	_		(2,750)
Free cash flow less distributions to non-controlling interest	\$ (2,121)	\$	8,389

Liquidity and Capital Resources

Our primary sources of liquidity are our existing cash and cash equivalents, cash flows from operations and potential borrowings under our ABL Facility and the Repeat Precision Promissory Note (as defined below). As of December 31, 2022, we had cash and cash equivalents of \$16.2 million, and total outstanding indebtedness of \$7.9 million primarily related to capital lease obligations, of which \$1.4 million is due within 12 months. Our ABL Facility consists of an asset-based revolving credit facility in an aggregate principal amount of \$35.0 million. Total borrowings are limited to a borrowing base calculated on the sum of cash in a specified pledged account, eligible accounts receivable and eligible inventory, provided it does not include the assets of Repeat Precision. At December 31, 2022, our borrowing base under the ABL Facility was \$18.6 million, with no outstanding borrowings. We have cash-collateralized less than \$0.1 million in letter of credit commitments. The amount available to be drawn under the ABL Facility may decline from current levels due to reductions in our borrowing base or a springing financial covenant if our business were to be adversely impacted by a decline in market conditions. We were in compliance with our debt covenants at December 31, 2022. In addition, Repeat Precision's promissory note with Security State Bank & Trust, Fredericksburg (the "Repeat Precision Promissory Note") has total aggregate borrowing capacity of \$4.3 million. As of December 31, 2022, Repeat Precision hand, cash flows from operations and potential borrowings under our ABL Facility and the Repeat Precision Promissory Note will be sufficient to fund our capital expenditure and liquidity requirements for the next twelve months and after. Our principal liquidity needs have been, and are expected to continue to be, capital expenditures, working capital, debt service and potential mergers and acquisitions.

We plan to incur approximately \$4 million to \$5 million in capital expenditures during 2023, which includes (i) upgrades to our tracer diagnostics deployment and sampling equipment and laboratory instrumentation, (ii) machining equipment and a potential new facility to increase perforating gun manufacturing capacity at Repeat Precision, (iii) upgrades to our manufacturing and field service equipment to support North American fracturing systems and well construction businesses, (iv) new computers and engineering workstations and (v) software development and implementation. Our capital expenditures, including the purchase and development of software and technology, for the years ended December 31, 2022 and 2021 were \$1.1 million and \$0.8 million, respectively.

To the extent we require additional liquidity to fund our capital requirements, including our capital lease obligations, or repay existing indebtedness, we would expect to obtain it through the incurrence of additional indebtedness, the proceeds of equiry issuances, or a combination thereof. We cannot provide assurance that we will be able to obtain this additional liquidity on reasonable terms, or at all. Our liquidity and our ability to meet our obligations and fund our capital requirements are also dependent on our future

financial performance and ability to manage costs, which is subject to general economic, financial and other factors that are beyond our control, including the continued impacts from the COVID-19 pandemic and Russia's invasion of Ukraine. Accordingly, we cannot provide assurance that our business will generate sufficient cash flow from operations or that funds will be available from additional indebtedness, the capital markets or otherwise to meet our liquidity needs. If we decide to pursue one or more significant acquisitions, we may incur additional debt or sell equity to finance such acquisitions, which could result in incremental expenses or dilution.

Cash Flows

The following table provides a summary of cash flows from operating, investing and financing activities for the periods presented (in thousands):

		Year Ended December 31,			
	· · · · · · · · · · · · · · · · · · ·	2022		2021	
Net cash (used in) provided by operating activities	\$	(1,423)	\$	11,583	
Net cash used in investing activities		(698)		(444)	
Net cash used in financing activities		(2,742)		(4,265)	
Effect of exchange rate changes on cash and cash equivalents		(1,071)		(251)	
Net change in cash and cash equivalents	\$	(5,934)	\$	6,623	

Operating Activities

Net cash (used in) provided by operating activities was \$(1.4) million compared to \$11.6 million for the years ended December 31, 2022 and 2021, respectively. The decrease in cash flow reflects additional investments in inventory and higher accounts receivable balances due to an increase in our operational activity, related to an increase in oil and gas market activity, as well as the timing of payments for goods and services through accounts payable. The 2022 results also reflect the payment of the 2021 annual incentive bonus of \$3.2 million, payments related to eash-settled share-based compensation and the receipt of income tax refunds in 2021, which did not recur in 2022. This overall decrease in cash flow from operations was partially offset by a smaller net loss in 2022 as compared to 2021, and the receipt and utilization of prepaid chemicals which were acquired in 2021.

Investing Activities

Net cash used in investing activities was \$0.7 million and \$0.4 million for the years ended December 31, 2022 and 2021, respectively, with an increase in purchases of property and equipment partially offset by a decrease in the purchase and development of software and technology.

Financing Activities

Net cash used in financing activities for the years ended December 31, 2022 and 2021 was \$2.7 million and \$4.3 million, respectively. Our primary uses of funds during the year ended December 31, 2022 included total principal payments of \$1.5 million related to our finance leases, payments of \$0.4 million for treasury shares withheld to settle withholding tax requirements for equity-settled share-based compensation, and payments of \$1.0 million for deferred costs related to our ABL Facility. Our primary use of funds during the year ended December 31, 2021 was \$2.8 million of distributions to our joint venture partner and principal payments related to our finance leases of \$1.3 million.

Material Cash Requirements

Our material cash requirements include the following contractual and other obligations

Financing Arrangements

Our ABL Facility consists of a revolving credit facility in an aggregate principal amount of \$35.0 million. Total borrowings available to the borrowers under the ABL Facility may be limited subject to a borrowing base calculated on the sum of cash in a specified pledged account, eligible accounts receivables and eligible inventory, provided it does not include the assets of Repeat Precision. At December 31, 2022, our borrowing base under the ABL Facility was \$18.6 million and we had no outstanding indebtedness under the ABL Facility.

Repeat Precision also has an outstanding promissory note with an aggregate borrowing capacity of up to \$4.3 million as of December 31, 2022, subject to a borrowing base. As of December 31, 2022, Repeat Precision had \$56 thousand in outstanding indebtedness under the promissory note.

See "Note 9. Debt" to our consolidated financial statements for additional details regarding our credit agreement and the promissory note.

Lonso

We have operating and finance leases for facilities, vehicles, and equipment. As of December 31, 2022, we had lease payment obligations, including interest payments for finance leases of \$14.6 million, with \$3.3 million payable within 12 months. See "Note 14. Leases" to our consolidated financial statements for additional information on lease obligations and maturities.

Purchase Obligations

Our purchase obligations in the amount of \$12.6 million primarily represent commitments to purchase goods or services to be utilized in the normal course of business, of which \$9.8 million is expected to be incurred within 12 months and is not reflected in the accompanying consolidated balance sheets.

Tax Obligation

Our tax obligations of \$0.3 million, of which \$0.1 million is due within 12 months, include a mandatory one-time tax on accumulated earnings of foreign subsidiaries resulting from the 2017 Tax Act. The income tax payable related to the 2017 Tax Act is due in installments in varying percentages over the next three years.

Critical Accounting Estimates

The discussion and analysis of our financial condition and results of operations is derived from the review of our consolidated financial statements prepared in accordance with GAAP, which includes our interpretation of accounting guidance and application through accounting policies. See "Note 2. Summary of Significant Accounting Policies." The preparation of these consolidated financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenue and expenses. Certain of our accounting policies require the application of significant judgment by management in selecting the appropriate assumptions for calculating financial estimates. By their nature, these judgments are subject to an inherent degree of uncertainty. Our actual results may differ from these estimates. The accounting estimates that we believe to be the most critical to an understanding of our financial condition and results of operations and that require the most complex and subjective management judgments are discussed below.

Allowance for Doubtful Accounts

We maintain an allowance for doubtful accounts for estimated losses that may result from the inability of our customers to make required payments. We evaluate collectability of customer accounts based upon credit approval practices, industry and customer historical experience as well as the current and projected financial condition of the specific customer. Amounts deemed to be uncollectible are applied against the allowance for doubtful accounts. Our business has seasonality, and the balance of our outstanding receivables fluctuates during the fiscal year based upon activity levels, sales volume, and general industry conditions. We periodically record bad debt expense or recoveries, which totaled a recovery of \$0.1 million for each of the years ended December 31, 2022 and 2021 as we have historically been successful in recovering some of these amounts over time. Further, to the extent deemed necessary by management, and depending on the circumstances, we may issue customer credits or concessions which reduce our revenues, but do not impact our bad debt expense. The nature of these concessions may be to maintain a customer relationship. Historically, these concessions have not been significant to our financial condition or results of operations and would likely not be significant should there be a 10% change in the level of concessions within a fiscal year.

Inventories

Inventories of raw material, work in progress and finished goods are maintained and valued at the lower of cost or estimated net realizable value, with cost determined at standard costs which approximates the first-in, first-out or average cost basis. Periodically, we evaluate our inventory to determine items that may be obsolete, slow-moving or in excess based upon historical sales experience and projected sales forecasts. Our estimates involve subjectivity and an evaluation of customer preferences over time which may impact our ability to recover the cost of inventory and generate a profitable return. Although we believe our estimates to be reasonable, we cannot assure that our reserves will be adequate to cover potential losses, or that we will have recoveries, if there are significant changes in market preferences or technological advancements by our competitors that render a portion of our current inventory as obsolete. We have incurred charges to cost of sales related to obsolescence of \$2.5 million and \$1.8 million for the years ended December 31, 2022 and 2021, respectively. An increase of obsolescence expense by 10%, or \$0.3 million, would not be deemed material to our financial statements

Impairments

We evaluate our property and equipment and identifiable intangible assets for impairment whenever changes in circumstances indicate that the carrying amount of an asset group may not be recoverable or if there are potential indicators of impairment. We also perform an annual impairment analysis of goodwill as of December 31, or whenever there is a triggering event that indicates an impairment loss may have been incurred. Estimating future net cash flows requires us to make judgments regarding long-term forecasts of future revenues and costs related to the assets subject to review. These forecasts are uncertain in that they require assumptions about our revenue growth, operating margins, capital expenditures, future market conditions and technological developments. In addition, if we are required to determine the fair value of our reporting units to test goodwill for impairment, we must apply estimates, assumptions, and judgment regarding revenue growth, operating margins, capital expenditures, future market conditions, weighted average costs of capital and terminal growth rate, and we must evaluate the metrics of a deemed set of comparable companies and market earnings multiples. Actual results may not align with these assumptions, and our expectations regarding future net cash flows may change such that a material impairment could result. Historically, we have recorded impairments associated with property and equipment, identifiable intangible assets and goodwill. We believe that the estimates and assumptions used in our impairment assessments are reasonable. However, if market conditions change dramatically, the impact on our forecasts and projections may be significant which could result in future impairments for our reportable units with long-term assets including goodwill.

Income Taxes

We are taxed as a corporation as defined under the Internal Revenue Code. The liability method is used in accounting for deferred income taxes. Under this method, deferred tax assets and liabilities are determined based on the difference between the financial reporting and tax bases of assets and liabilities and are measured using the enacted tax rates and laws that will be in effect when these differences are expected to reverse. The realizability of deferred tax assets is evaluated annually and a valuation allowance is provided if it is more likely than not that the deferred tax assets will not give rise to future benefits. We recognize tax benefits from uncertain tax positions only if it is not likely than not that the tax position will be sustained, based upon technical merits, upon examination by the taxing authorities. If the income tax position is expected to meet the more likely than not criteria, the benefit recorded in the consolidated financial statements equals the largest amount that is greater than 50% likely to be realized upon its ultimate settlement. A valuation allowance to reduce deferred tax assets will not be realized.

We have incurred operating losses during each of the years ended December 31, 2022 and 2021. We have applied valuation allowances to reduce our deferred tax assets as of December 31, 2022 and 2021, based upon our forecasts of future taxable income in the jurisdictions in which these deferred tax assets are recorded. Our financial statements could be materially affected if: (i) our actual results differ significantly from our forecast estimates; (ii) there are future changes in enacted tax laws with retroactive application; or (iii) tax authorities do not agree with our application of the tax law to our circumstances and the matter is not ultimately resolved in our favor.

Litigation

In the ordinary course of business, from time to time, we have various claims, lawsuits and administrative proceedings that are pending or threatened with respect to commercial, intellectual property and employee matters. We accrue for contingencies where the occurrence of a material loss is probable and can be reasonably estimated, based on our estimate of the expected liability. Our assessment of the likely outcome of litigation matters is based on our judgment of several factors, including experience with similar matters, prior history, precedents, relevant financial information and other evidence and facts specific to the matter. Although the outcome of any legal proceeding cannot be predicted with any certainty, if a settlement is deemed to be probable and estimable, management would consider relevant facts and circumstances to determine the potential range of loss exposure or gain on settlement, if any. Future settlements which result in loss or awards could be material to our financial statements and cannot be predicted with certainty. See "Note 10. Commitments and Contingencies" of our consolidated financial statements for further information regarding our legal proceedings.

Recently Issued Accounting Pronouncements

See "Note 2. Summary of Significant Accounting Policies" to our consolidated financial statements for discussion of the accounting pronouncements we recently adopted and the accounting pronouncements recently issued by the Financial Accounting Standards Board ("FASB").

Smaller Reporting Company Status

We are a "smaller reporting company" as defined by Section 12b-2 of the Exchange Act, meaning that we are not an investment company, an asset-backed issuer, or a majority-owned subsidiary of a parent company that is not a smaller reporting company and

have a public float of less than \$250 million. As a smaller reporting company, we may take advantage of specified reduced reporting and other burdens that are otherwise applicable generally to public companies that do not qualify for the classification, including among other things, providing only two years of audited financial statements.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Our financial position is exposed to a variety of risks, including commodity price risk, foreign currency exchange rate risk, interest rate risk and credit risk

Commodity Price Risk

The market for our products and services is indirectly exposed to fluctuations in the prices 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 E&P industry. Additionally, because we do not sell our products under long-term contracts, we believe we are particularly exposed to short-term fluctuations in the prices of crude oil and natural gas. We do not currently intend to hedge our indirect exposure to commodify price risk.

Foreign Currency Exchange Rate Risk

A substantial amount of our revenues is derived in Canada and, accordingly, our competitiveness and financial results are subject to foreign currency fluctuations where revenues and costs are denominated in Canadian dollars rather than USD. During the years ended December 31, 2022 and 2021, approximately 65% and 62%, respectively, of our revenues were attributable to our operations in Canada. We may use foreign currency forward exchange contracts to hedge our future exposure to CAD. We also derive revenue from several juristicnis outside of North America, including countries that occasionally experience periods of significant inflation, which occurred in Argentina in 2022 and 2021. We do not currently intend to hedge our future exposure to the Argentine Peso or other foreign currencies.

Internact Data Dich

We were primarily exposed to interest rate risk through our Prior Senior Secured Credit Facility and the Prior Amended Credit Agreement, which were terminated concurrent with our entry on May 3, 2022 into the replacement ABL Facility. At December 31, 2022, we had no outstanding indebtedness under our ABL Facility.

Borrowings under the ABL Facility may be made in U.S. dollars with interest calculated using either the "ABR", the "Adjusted Daily Simple SOFR" or the "Adjusted Term SOFR Rate", and in Canadian dollars with interest calculated using the "Canadian Prime Rate" or the "CDOR Rate" (each as defined in the Credit Agreement). Borrowings bear interest plus a margin that varies depending on our leverage ratio as follows: (i) for ABR based loans, between 1.40% and 2.40%, and (ii) for Adjusted Daily Simple SOFR, Adjusted Term SOFR Rate, Canadian Prime Rate, and CDOR Rate, between 2.40% and 3.40%. We must also pay a monthly commitment fee of 0.25% to 0.50% per year, based on unused commitments. The applicable interest rate at December 31, 2022 was 6.8%.

We are also subject to interest rate risk through our Repeat Precision Promissory Note. At December 31, 2022, we had \$56 thousand outstanding indebtedness under the Repeat Precision Promissory Note are made in U.S. dollars with interest calculated using the prime rate plus a 1.0% margin over the index. The applicable interest rate at December 31, 2022 was 8.5%.

Credit Rick

Our customers are E&P companies and other oilfield services companies. This concentration of counterparties operating in a single industry may increase our overall exposure to credit risk, in that the counterparties may be similarly affected by changes in economic, regulatory or other conditions. We manage credit risk by analyzing the counterparties' financial condition prior to accepting new customers and prior to adjusting existing credit limits.

Item 8. Financial Statements and Supplementary Data

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Report of Independent Registered Public Accounting Firm

Board of Directors and Shareholders NCS Multistage Holdings, Inc

Opinion on the financial statements

We have audited the accompanying consolidated balance sheets of NCS Multistage Holdings, Inc. (a Delaware corporation) and subsidiaries (the "Company") as of December 31, 2022 and 2021, the related consolidated statements of operations, comprehensive loss, shareholders' equity, and cash flows for the period ended December 31, 2022, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2022, in conformity with accounting principles generally accepted in the United States of America.

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 obtain 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.

Critical audit matters are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. We determined that there are no critical audit matters.

/s/ GRANT THORNTON LLP

We have served as the Company's auditor since 2021

Houston, Texas March 7, 2023

NCS MULTISTAGE HOLDINGS, INC. CONSOLIDATED BALANCE SHEETS (In thousands, except share data)

Neutron austich equivalents		December 31, 2022	December 31, 2021
Cash ade desperabelers \$ 16,234 \$ 22,168 Accounts receivable—Inde, et 37,04 \$ 23,50 Inventions, net 37,04 \$ 3,97 Inventions, net 37,02 \$ 47,70 Other current assets 87,00 \$ 8,00 Nocurrent assets 23,16 \$ 8,00 Nocurrent assets 23,16 \$ 8,00 Reportly and equipment, et 23,16 \$ 1,22 Goudshill 15,22 \$ 1,22 Operating lease assets 4,515 \$ 4,80 Deposits and other assets 9,505 \$ 5,83 Tofal connect assets 8 7,50 \$ 1,33 Tofal connect assets \$ 7,50 \$ 7,50 \$ 7,50 Account psylable—Inde \$ 6,37 \$ 7,50 Accounts psylable—Inde \$ 6,37 \$ 5,50 Operating lease assets \$ 6,47 \$ 6,35			
Accounts receivable—rads, end 27,346 24,392 18,9017 19,9016 expenses and other current assets 27,000 27,00			
Perpent cyennes and other current assets			
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Total current assets \$3,903 Noncurrent assets **** Property and equipment, net \$23,316 \$24,708 Goodwill \$5,222 \$15,222 Legistrating the languaghles net \$3,073 \$3,444 Deposits and other assets \$3,075 \$4,444 Deposits and other assets \$6,65 \$1,852 Total ancurrent assets \$6,65 \$1,852 Total assets \$7,500 \$1,852 Labilities and assets \$7,500 \$1,852 Labilities and assets \$7,500 \$7,500 Accounts payable—trade \$7,500 \$7,500 Accounts payable—trade \$1,852 \$1,852 Accounts payable—trade \$1,852 \$1,852 Accounts payable—trade \$1,952 \$1,852 Accounts payable—trade \$1,952 \$1,852 Accounts payable—trade \$2,522 \$2,500 Accounts payable—trade \$1,952 \$1,852 Accounts payable—trade \$2,522 \$2,500 Accounts payable—trade \$1,952			
Noncert assets	Other current receivables		
Property and equipment, net	Total current assets	87,663	88,493
Godwill Identifiable intangibles, net 5,222 15,222 16,222 16,222 16,222 18,222 1	Noncurrent assets		
South time intengibles net	Property and equipment, net	23,316	24,708
Operating lesse seried 4,515 4,809 Depositis and other series 2,761 3,131 Deformed income taxes, net 460 236 Total assets 5,055 5,558,32 Libilities 5 7,502 5 Libilities 5 7,502 5 42,325 Libilities 5 7,502 5 7,502 6 63,233 6,232 6,232 1,602 6,232 1,602 6,232 1,602 6,232 1,602 6,232 1,602 6,232 1,602 6,232 1,602 6,232 1,602 6,232 1,602 6,232 2,606 6,232 2,606 6,232 2,606 7,002 1,818 1,833 1,818 1,818 1,818 1,818 1,818 1,812 1,612 1,612 1,612 1,612 1,612 1,612 1,612 1,612 1,612 1,612 1,612 1,612 1,612 1,612 1,612 1,612 1,612 1,612 1,612	Goodwill	15,222	15,222
Deposits and other assets 2,761 3,113 Deferent income taxes, net 6 236 Total noncurrent assets 5,935 5,832 Total stests 5 318,599 14,325 Libitities and Stockholder's Equity Total stephale 8 7,549 \$ 7,502 Accrued expenses 4,391 6,232 1,602 1,602 1,602 1,602 1,602 1,602 1,602 1,602 1,506 1,602 <td>Identifiable intangibles, net</td> <td></td> <td></td>	Identifiable intangibles, net		
Poetra (income taxes, net			
Total noncurrent assets \$ 5, \$ 18, \$ 2 5, \$ 18,	Deposits and other assets	2,761	
Total assets	Deferred income taxes, net	46	236
Liablitics and Stockholder's Equity Current Inabilities 7,502 7,502 7,502 7,502 7,502 7,502 7,502 7,502 7,502 7,502 7,502 7,502 7,502 7,502 7,502 1,504 1,504 1,504 1,504 1,505 1,502 2,502 2,606 1,603 1,603 1,603 1,818 1,603 1,603 1,603 1,818 1,603	Total noncurrent assets	50,936	53,832
Liablitics and Stockholder's Equity Current Inabilities 7,502 7,502 7,502 7,502 7,502 7,502 7,502 7,502 7,502 7,502 7,502 7,502 7,502 7,502 7,502 1,504 1,504 1,504 1,504 1,505 1,502 2,502 2,606 1,603 1,603 1,603 1,818 1,603 1,603 1,603 1,818 1,603	Total assets	\$ 138,599	\$ 142,325
Accurate payable	Liabilities and Stockholders' Equity		
Accused expenses			
Procurs Proc			
Operating lease liabilities 1,274 1,556 Current naturities of long-term debt 1,488 1,483 Other current liabilities 1,252 2,660 Total current liabilities 1,693 1,918 Noncurrent liabilities			
Current maturities of long-term debt 1,489 1,483 Other current liabilities 1,7693 1,818 Noncurrent liabilities 1,7693 1,9,818 Noncurrent liabilities			
Other current liabilities 5.522 2.660 Total current liabilities 17,693 19,818 Noncurrent liabilities			
Total current liabilities			
Noncurrent liabilities 6,437 6,335 Long-term debt, less current maturities 3,680 3,779 Ober long-term liabilities 1,328 1,612 Deferred income taxes, net 199 114 Total noncurrent liabilities 11,644 11,840 Total inspirities 29,337 31,658 Commitments and contingencies (Note 10) 500,000 30,000 30,000 Stockholders' equity 80,000 80,0			
Congretim delt, less current maturities		17,693	19,818
Operating lease liabilities, long-term 3,680 3,779 Other long-term liabilities 1,328 1,612 Deferred income taxes, net 199 114 Total noncurrent liabilities 11,644 11,840 Total iabilities 29,337 31,658 Commitments and contingencies (Note 10) 5 5 Stockholders' equity 5 5 Preferred stock, \$0.01 par value, 10,000,000 shares authorized, no shares issued and outstanding at December 31, 2021 5 5 Common stock, \$0.01 par value, 11,250,000 shares authorized, 2,434,809 shares issued 8 5 and 2,408,474 shares outstanding at December 31, 2022 and 2,397,766 shares issued 24 24 Additional paid-in-capital 440,475 437,022 Accumulated other comprehensive loss (262,464) (261,362) Retained deficit (262,464) (261,362) Teasury stock, at cost, 26,335 shares at December 31, 2022 and 17,392 shares (1,389) (1,006) Total stockholders' equity 91,029 92,584 Non-controlling interest 191,020 110,667			
Other long-term liabilities 1,328 1,612 Deferred income taxes, net 199 114 Total noncurrent liabilities 11,644 11,840 Total liabilities 29,337 31,658 Commitments and contingencies (Note 10) 29,337 31,658 Stockholders' equity Preferred stock, \$0.01 par value, 10,000,000 shares authorized, no shares issued and outstanding at December 31, 2021 ————————————————————————————————————			
Deferred income taxes, net 199 114 174			
Total noncurrent liabilities 11,644 11,840 Total liabilities 29,337 31,658 29,337 31,658 29,337 31,658 20,337 31,658 20,337 31,658 20,337 20,3	Other long-term liabilities	1,328	
Total liabilities			
Commitments and contingencies (Note 10) Stockholders' equity Preferred stock, \$0.01 par value, 10,000,000 shares authorized, no shares issued and outstanding at December 31, 2021 Common stock, \$0.01 par value, 11,250,000 shares authorized, 2,434,809 shares issued and 2,408,474 shares outstanding at December 31, 2022 and 2,397,766 shares issued and 2,380,374 shares outstanding at December 31, 2022 and 2,397,766 shares issued 4 Additional paid-in capital 440,475 437,022 Accumulated other comprehensive loss (82,094) (82,094) Retained deficit (262,464) (261,362) Teasury stock, at cost; 26,335 shares at December 31, 2022 and 17,392 shares (1,389) (1,006) Total stockholders' equity 91,029 92,584 Non-controlling interest 18,233 18,083 Total equity 19,020 110,667	Total noncurrent liabilities		11,840
Stockholders' equity Preferred stock, \$0.01 par value, \$10,000,000 shares authorized, no shares issued and outstanding at December 31, 2021 and December 31, 2021 and December 31, 2021 and December 31, 2021 and 2,484,809 shares issued and 2,488,474 shares outstanding at December 31, 2022 and 2,397,766 shares issued and 2,380,374 shares outstanding at December 31, 2022 and 2,397,766 shares issued 440,475 437,022 424 dditional paid-in-capital 440,475 437,022 424 dditional paid-in-capital 480,475 437,022 424 dditional paid-in-capital 480,475 437,022 425	Total liabilities	29,337	31,658
Stockholders' equity Preferred stock, \$0.01 par value, \$10,000,000 shares authorized, no shares issued and outstanding at December 31, 2021 and December 31, 2021 and December 31, 2021 and December 31, 2021 and 2,484,809 shares issued and 2,488,474 shares outstanding at December 31, 2022 and 2,397,766 shares issued and 2,380,374 shares outstanding at December 31, 2022 and 2,397,766 shares issued 440,475 437,022 424 dditional paid-in-capital 440,475 437,022 424 dditional paid-in-capital 480,475 437,022 424 dditional paid-in-capital 480,475 437,022 425	Commitments and contingencies (Note 10)		
Preferred stock, \$0.01 par value, 10,000,000 shares authorized, no shares issued and outstanding at December 31, 2022 and Sparse sustenciated, 2,434,809 shares issued — — and 2,408,474 shares outstanding at December 31, 2022 and 2,397,766 shares issued 24 24 Additional paid-in capital 440,475 437,022 Accumulated other comprehensive loss (85,617) (82,094) Retained deficit (262,464) (261,362) Teasury stock, at cost; 26,335 shares at December 31, 2022 and 17,392 shares (1,389) (1,006) at December 31, 2021 91,029 92,884 Non-controlling interest 91,029 92,884 Non-controlling interest 18,233 18,083 Total stockholders' equity 19,025 110,667			
Common stock, \$0.01 par value, 11,250,000 shares authorized, 2,434,809 shares issued and 2,408,474 shares outstanding at December 31, 2022 and 2,397,766 shares issued and 2,380,374 shares outstanding at December 31, 2021 24 24 Additional paid-in-capital 440,475 437,022 Accumulated other comprehensive loss (85,617) (82,094) Retained deficit (262,464) (261,362) Treasury stock, at cost; 26,335 shares at December 31, 2022 and 17,392 shares at December 31, 2021 (1,389) (1,006) Total stockholders' equity 91,029 92,584 Non-controlling interest 18,233 18,083 Total equity 109,627 110,667	Preferred stock, \$0.01 par value, 10,000,000 shares authorized, no shares issued and outstanding at		
and 2,408,474 shares outstanding at December 31, 2022 and 2,397,766 shares issued and 2,380,374 shares outstanding at December 31, 2021 and 2,380,374 shares outstanding at December 31, 2021 and 2,380,374 shares outstanding at December 31, 2021 and 17,392 shares at December 31, 2022 and 17,392 shares at December 31, 2021 and 17,392 shares at December 31, 2022 and 17,3		-	_
and 2,380,374 shares outstanding at December 31, 2021 24 24 Additional paid-in capital 440,475 437,022 Accumulated other comprehensive loss (85,617) (82,094) Retained deficit (262,464) (261,362) Treasury stock, at cost, 26,335 shares at December 31, 2022 and 17,392 shares (1,389) (1,006) Total stockholders' equity 91,029 92,584 Non-controlling interest 18,233 18,083 Total equity 109,627 110,667	Common stock, 50.01 par value, 11,250,000 shares authorized, 2,454,007 shares issued		
Additional paid-in capital 440,475 437,022 Accumulated other comprehensive loss (85,617) (82,094) Retained deficit (262,464) (261,362) Teasury stock, at cost; 26,335 shares at December 31, 2022 and 17,392 shares (1,389) (1,006) Total stockholders' equity (91,009) 102,254 Non-controlling interest (18,233) 18,083 Total equity (10,006) 109,262 110,667		24	24
Accumulated other comprehensive loss (85,617) (82,094) Retained deficit (262,464) (261,362) Treasury stock, at cost; 26,335 shares at December 31, 2022 and 17,392 shares (1,389) (1,006) Total stockholders' equity 91,029 92,584 Non-controlling interest 18,233 18,083 Total equity 109,262 110,667			
Retained deficit (262,464) (261,362) Treasury stock, at cost; 26,335 shares at December 31, 2022 and 17,392 shares at December 31, 2021 (1,389) (1,006) Total stockholders' equity 91,029 92,884 Non-controlling interest 18,233 18,083 Total equity 109,620 110,667			
Treasury stock, at cost; 26,335 shares at December 31, 2022 and 17,392 shares (1,389) (1,006) Total stockholders' equity 91,029 92,584 Non-controlling interest 18,233 18,083 Total equity 109,662 110,667			
at December 31, 2021 (1,389) (1,006) Total stockholders' equity 91,029 92,584 Non-controlling interest 18,233 18,083 Total equity 109,262 110,667		(202,404)	(201,302)
Total stockholders' equity 91,029 92,584 Non-controlling interest 18,233 18,083 Total equity 109,262 110,667	reasury stock, at cost; 20,355 snares at December 51, 2022 and 17,392 snares	(1.290)	(1,000)
Non-controlling interest 18,233 18,083 Total equity 109,262 110,667			
Total equity 109,262 110,667			
Total liabilities and stockholders' equity S 138,599 \$ 142,325			
	Total liabilities and stockholders' equity	\$ 138,599	\$ 142,325

The accompanying notes are an integral part of these consolidated financial statements. 51

NCS MULTISTAGE HOLDINGS, INC. CONSOLIDATED STATEMENTS OF OPERATIONS (In thousands, except per share data)

	Year Er	ded December 31.	
	2022	2021	
Revenues		_	
Product sales	\$ 105,83		83,223
Services	49,7		35,279
Total revenues	155,6	2 1	118,502
Cost of sales			
Cost of product sales, exclusive of depreciation and amortization expense shown below	68,4	2	51,897
Cost of services, exclusive of depreciation and amortization expense shown below	26,8	6	18,130
Total cost of sales, exclusive of depreciation and amortization expense shown below	95,2	8	70,027
Selling, general and administrative expenses	58,3		49,094
Depreciation	3,6:		3,832
Amortization	60		669
Loss from operations	(2,2:	(3)	(5,120)
Other income (expense)			(1)
Interest expense, net	(1,0	.5)	(733)
Other income, net	2,9:		2,054
Foreign currency exchange (loss) gain	(2)	(3)	283
Total other income	1,6:	2	1,604
Loss before income tax	(6)	1)	(3,516)
Income tax expense	3:	1	263
Net loss	(9.		(3,779)
Net income attributable to non-controlling interest	1:		955
Net loss attributable to NCS Multistage Holdings, Inc.	\$ (1,1)	(2) \$	(4,734)
Loss per common share			
Basic loss per common share attributable to NCS Multistage Holdings, Inc.	\$ (0.	45) \$	(1.98)
Diluted loss per common share attributable to			(1) 0)
NCS Multistage Holdings, Inc.	\$ (0.	(5) \$	(1.98)
Weighted average common shares outstanding			
Basic	2,4.	2	2,396
Diluted	2,4	_	2,396
Diluted	Σ,τ.		2,570

The accompanying notes are an integral part of these consolidated financial statements 52

NCS MULTISTAGE HOLDINGS, INC. CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS (In thousands)

	Year Ended December 31,			
	2022			2021
Net loss	\$	(952)	\$	(3,779)
Foreign currency translation adjustments, net of tax of \$0		(3,523)		(314)
Comprehensive loss	<u> </u>	(4,475)		(4,093)
Comprehensive income attributable to non-controlling interest		150		955
Comprehensive loss attributable to				
NČS Multistage Holdings, Inc.	\$	(4,625)	\$	(5,048)

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

NCS MULTISTAGE HOLDINGS, INC. CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (In thousands, except share data)

	Preferred Shares	I Stock Amount	Common Stock	k Amount	Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Retained Deficit	Treasury S Shares	Stock Amount	Non- Controlling Interest	Total Stockholders' Equity
Balances as of December 31, 2020		s –	2,371,992 \$	24 \$	432,801 \$	(81,780) \$	(256,628)	(12,074) \$	(809) \$	19,878 \$	113,486
Share-based compensation	_	_	_	_	4,221	_	_	_	_	_	4,221
Net (loss) income	_	_	_	_	_	_	(4,734)	_	_	955	(3,779)
Distribution to noncontrolling interest	_	_	_	_	_	_	_	_	_	(2,750)	(2,750)
Vesting of restricted stock Shares withheld	_	_	25,774	=	_	=	_	(5,318)	(197)	=	(197)
Currency translation adjustment		_				(314)	_	(3,310)		_	(314)
Balances as of December 31, 2021	_ 5	s –	2,397,766 \$	24 \$	437,022 \$	(82,094) \$	(261,362)	(17,392) \$	(1,006) \$	18,083 \$	110,667
Share-based compensation	_	_	_	_	3,453	_	_	_	_	_	3,453
Net (loss) income	_	_	_	_	_	_	(1,102)	_	_	150	(952)
Vesting of restricted stock	_	_	37,043	_	_	_	_	_	_	_	_
Shares withheld	_	_	_	_	_	_	_	(8,943)	(383)	_	(383)
Currency translation adjustment			_	_	_	(3,523)	_		_	_	(3,523)
Balances as of December 31, 2022		s —	2,434,809 \$	24 \$	440,475 \$	(85,617) \$	(262,464)	(26,335) \$	(1,389) \$	18,233 \$	109,262

The accompanying notes are an integral part of these consolidated financial statements 54

NCS MULTISTAGE HOLDINGS, INC. CONSOLIDATED STATEMENTS OF CASH FLOWS (In thousands)

		i	
		Year Ended December 3 2022	2021
Cash flows from operating activities			
Net loss	\$	(952) \$	(3,779)
Adjustments to reconcile net loss to net cash			
(used in) provided by operating activities:			
Depreciation and amortization		4,319	4,501
Amortization of deferred loan cost		231	281
Write-off of deferred loan costs		196	_
Share-based compensation		6,039	6,621
Provision for inventory obsolescence		2,542	1,754
Deferred income tax expense		266	96
Gain on sale of property and equipment		(361)	(378)
Provision for doubtful accounts		(61)	(129)
Proceeds from note receivable		590	281
Changes in operating assets and liabilities:			
Account's receivable—trade		(4,860)	(2,558)
Inventories, net		(7,678)	(939)
Prepaid expenses and other assets		1,347	(437)
Accounts payable—trade		1,224	2,843
Accrued expenses		(1,777)	3,000
Other liabilities		(2,852)	(3,247)
Income taxes receivable/payable		364	3,673
Net cash (used in) provided by operating activities	<u></u>	(1,423)	11,583
Cash flows from investing activities			
Purchases of property and equipment		(1,035)	(495)
Purchase and development of software and technology		(96)	(338)
Proceeds from sales of property and equipment		433	389
Net cash used in investing activities		(698)	(444)
Cash flows from financing activities		(0.0)	()
Payments on finance leases		(1,463)	(1,318)
Line of credit borrowings		11.780	360
Payments of line of credit borrowings		(11,724)	(360)
Treasury shares withheld		(383)	(197)
Distribution to non-controlling interest		_	(2,750)
Payment of deferred loan cost related to ABL facility		(952)	(2,750)
Net cash used in financing activities		(2,742)	(4,265)
Effect of exchange rate changes on cash and cash equivalents		(1,071)	(251)
Net change in cash and cash equivalents		(5,934)	6,623
Cash and cash equivalents beginning of period		22,168	15,545
	•	16,234 \$	22,168
Cash and cash equivalents end of period	3	10,234 \$	22,108
Supplemental cash flow information			
Cash paid for interest, net of amounts capitalized	\$	557 \$	423
Cash paid for income taxes (net of refunds)		(303)	(3,528)
Noncash investing and financing activities		1.700	2.512
Assets obtained in exchange for new finance lease liabilities		1,788	3,712
Assets obtained in exchange for new operating lease liabilities		1,450	2,000

The accompanying notes are an integral part of these consolidated financial statements. $\overline{\mbox{55}}$

Note 1. Organization and Basis of Presentation

Organization

NCS Multistage Holdings, Inc., a Delaware corporation, through its wholly owned subsidiaries and subsidiaries for which it has a controlling voting interest (collectively referred to as the "Company," "NCS," "we," "our" and "us"), is primarily engaged in providing engineered products and support services for oil and natural gas well construction, well completions and field development strategies. We offer our products and services primarily to exploration and production companies for use both in onshore and offshore wells. We operate through service facilities principally located in Houston and Odessa, Texas; Tulsa, Oklahoma; Billings, Montana; Morgantown, West Virginia; Calgary, Red Deer, Grande Prairie and Estevan, Canada: Neuquén, Argentina and Stavan, Canada: Neuquén, Argentina and S

Basis of Presentation

Our accompanying consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States ("GAAP"). All intercompany accounts and transactions have been eliminated in consolidation. We consolidate Repeat Precision, LLC ("Repeat Precision"), a 50% owned entity with operations in the United States and Mexico, because NCS has a controlling voting interest. The other party's ownership is presented separately as a non-controlling interest. As a smaller reporting company ("SRC"), we applied certain reduced reporting requirements permitted by the Securities and Exchange Commission ("SEC"), including among other things, providing only two years of audited financial statements.

Note 2. Summary of Significant Accounting Policies

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 to disclose contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Such estimates include but are not limited to estimated losses on accounts receivables, estimated realizable value on excess and obsolete inventories, estimates related to fair value of reporting units for purposes of assessing possible goodwill impairment, expected future cash flows from long lived assets to support impairment tests, share based compensation, amounts of deferred taxes and income tax contingencies. Actual results could materially differ from those estimates.

COVID-19 Pandemic Impacts

Coronavirus disease 2019 ("COVID-19") caused unprecedented declines in economic activity, energy demand and oil and natural gas prices in 2020. The continuing impacts of the COVID-19 pandemic are contributing to occasional supply chain disruptions, particularly in China, and cost inflation, including labor cost inflation. As the impact of the pandemic continues to evolve, estimates and assumptions about future events and their efforts cannot be determined with certainty and therefore require judgment. To the extent actual results differ materially from those estimates and assumptions, our future financial statements could be affected.

Foreign Currency

Our functional currency is the United States dollar ("USD"). The financial position and results of operations of our significant foreign subsidiaries are generally measured using the local currency as the functional currency. In accordance with Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") 830, Foreign Currency Matters, revenues and expenses of our significant foreign subsidiaries have been translated into USD at average exchange rates prevailing during the period. Assets and liabilities have been translated at the exchange rates on the balance sheet date. The resulting translation gain and loss adjustments have been recorded directly as a separate component of other comprehensive loss in the accompanying consolidated statements of comprehensive loss, and changes in stockholders' equity.

Transaction gains and losses that arise from exchange rate fluctuations on transactions denominated in a currency other than the functional currency are included in the consolidated statements of operations as incurred.

Revenue Recognition

We derive our revenues primarily from highly engineered products and support services. Revenues are based upon a purchase order, contract or other persuasive evidence of an arrangement with the customer that includes a fixed or determinable price, provided that collectability is reasonably assured, but such arrangements do not generally include right of return or other similar provisions or other significant post-delivery obligations. Sales and value added taxes that we collect concurrent with revenue-producing activities

are excluded from revenue. We recognize revenue through the following steps: (i) identify the contract, (ii) identify the performance obligations, (iii) determine the transaction price, (iv) allocate the transaction price and (v) satisfy the performance obligation

On occasion, we issue credits to our customers that are related specifically to the performance of our products or the services we provide, with such credits reducing the amount of revenue for the completed sales. These credits are infrequent, situation specific and cannot be individually estimated in advance.

The payment terms and conditions in our customer contracts vary. We do not have contracts that contain a financing component and generally do not accept noncash consideration from customers.

NCS has elected to recognize shipping and handling costs when control of the product transfers to the customer. These costs, net of any customer paid freight, are included in cost of sales in our consolidated statements of operations.

Product Sales Revenues

For product sale arrangements that are standard inventory products or modified inventory products with an alternative use, revenue is recognized at a point in time when control transfers. Control generally transfers upon shipment or delivery, and delivery is based on the customer instructions. Customers may also request bill and hold arrangements in writing. Once we have completed the bill and hold order, the products are segregated from the rest of inventory in the warehouse. The transaction price for product sales having a performance obligation is the price per unit times the unit quantity ordered and shipped to the customer or consumed at the well site.

Services Revenue

For service arrangements that do not have a contract provision with a right to a payment for services up to the date of termination, revenue is recognized when the job has been completed, which usually includes a customer signature or acknowledgement and when there are no additional services or future obligations required by us. The transaction price is determined by the contract unit day rate times the cumulative number of days of service provided upon the completion of the service and upon customer acceptance.

For service arrangements that do have a contract provision with a right to payment for services up to the date of termination, revenue is recognized over time using a unit rate (labor and materials) output method that corresponds to the value we would receive upon termination of the contract at a reporting period. The transaction price for the period end is determined by the contract unit rate times the cumulative number of units earned up to the reporting period less any revenue recognized in prior periods.

Cash and Cash Equivalents

We consider all highly liquid instruments purchased with an original maturity date of three months or less to be cash equivalents. These items are carried at cost, which approximates fair value.

In accordance with ASC 230, Statements of Cash Flow, cash flows from our significant foreign subsidiaries are calculated based on our functional currency. As a result, amounts related to changes in assets and liabilities reported in the consolidated statements of cash flows will not necessarily agree to changes in the corresponding balances on the consolidated balance sheets.

Concentration of Credit Risk

Financial instruments that potentially subject us to credit risk are cash and cash equivalents and trade accounts receivable. Cash balances are maintained in financial institutions which, at times, exceed federally insured limits. We monitor the financial condition of the financial institutions in which the accounts are maintained and have not experienced any losses in such accounts.

Substantially all of our sales are to customers whose activities are directly or indirectly related to the oil and gas industry. We generally extend short-term credit to these customers and, therefore, collectability of receivables is affected by market conditions in the oil and gas industry. We perform ongoing credit evaluations as to the financial condition of our customers with respect to trade accounts receivables. Generally, no collateral is required as a condition of sale.

No single customer individually accounted for 10% or more of our consolidated revenue during 2022 or 2021, or comprised 10% or more of our trade accounts receivable balance as of December 31, 2022. One customer accounted for 11% of our trade accounts receivable balance as of December 31, 2021.

Accounts Receivable, Trade and Allowance for Doubtful Accounts

Trade accounts receivable are recorded at their invoiced amounts and do not bear interest. We perform ongoing credit evaluations of our clients and monitor collections and payments.

We maintain an allowance for doubtful accounts for estimated losses that may result from the inability of our customers to make required payments. Earnings are charged with a provision for doubtful accounts based on a current review of the collectability of customer accounts by management. Such allowances are based upon several factors including, but not limited to credit approval practices, industry and customer historical experience as well as the current and projected financial condition of the specific customer. Accounts deemed uncollectible are applied against the allowance for doubtful accounts. As of December 31, 2021, we have no amounts in our allowance for doubtful accounts. As of December 31, 2021, our allowance for doubtful accounts approximated \$0.1 million.

Inventories

Inventories consist primarily of raw material, product components, assembled products, certain components used to internally construct our frac isolation assemblies, and chemicals used in our tracer diagnostics services in raw materials or finished goods. Inventories are stated at the lower of cost or estimated net realizable value. Cost is determined at standard costs approximating the first-in, first-out or average cost basis. We continuously evaluate inventories, based on an analysis of inventory levels, historical sales experience and future sales forecasts, to determine obsolete, slow-moving and excess inventory. We utilize an excess and obsolete reserve to adjust such inventory to its estimated recoverable value, with an offset to cost of sales in the current period.

Impairments

We evaluate our property and equipment and identifiable intangible assets for impairment whenever changes in circumstances indicate that the carrying amount of an asset group may not be recoverable. Should the review indicate that the carrying value is not fully recoverable, the amount of the impairment loss is determined by comparing the carrying value to the estimated fair value. We assess recoverability based on undiscounted future net cash flows. Estimating future net cash flows requires us to make judgments regarding long-term forecasts of future revenues and costs related to the assets subject to review. These forecasts are uncertain in that they require assumptions about our revenue growth, operating margins, capital expenditures, future market conditions and technological developments. If changes in these assumptions occur, our expectations regarding future net cash flows may change such that a material impairment could result. There was no impairment of property and equipment and identifiable intangibles included herewith for further information.

"Note 7. Goodwill and Identifiable Intangibles" included herewith for further information.

An assessment of potential goodwill impairment indicators is performed annually or whenever there is a triggering event that indicates an impairment loss may have been incurred. If required, we typically perform an annual impairment test for goodwill using an assessment date in the fourth quarter of the fiscal year. Under GAAP, we have the option to first assess qualitative factors to determine whether the existence of events or circumstances leads to a determination that it is more likely than not that the fair value of neor more of our reporting units exceeds the related carrying amount. If, after assessing the totality of events or circumstances, we determine it is more likely than not that the fair value of a reporting unit exceeds the related carrying amount, there is no need to perform any further testing. However, if we conclude otherwise, then we are required to perform a quantitative impairment test by calculating the quantitative goodwill impairment test. The fair value of the reporting unit is determined using a combination of a market multiple and a discounted cash flow approach. Determining the fair value of a reporting unit reporting unit reporting growth rate, the set of comparable companies utilized, and the earnings metrics and multiple utilized. We believe that the estimates and assumptions used in impairment essessments are reasonable, It effects and assumptions used in impairment charge is recorded in the amount of the difference. No impairment charge was recorded for the years ended December 31, 2022 and 2021. For additional information, see "Note 7. Goodwill and Identifiable Intangibles."

Property and Equipment

Property and equipment are stated at historical cost adjusted for impairment, less accumulated depreciation. Equipment held under finance leases are stated at fair value which is typically the present value of minimum lease payments at the inception of the lease, less accumulated depreciation. Expenditures for property and equipment and for items which substantially increase the useful lives of existing assets are capitalized at cost and depreciated over their estimated useful life utilizing the straight-line method. Routine

expenditures for repairs and maintenance are expensed as incurred. Depreciation is calculated over the estimated useful lives of the related assets using the straight-line method. Leasehold improvements and property under finance leases are amortized over the shorter of the remaining lease term or useful life of the related asset. Depreciation expense includes amortization of assets under finance leases. The cost and related accumulated depreciation of assets retired or otherwise disposed of are eliminated from the accounts, and any resulting gains or losses are recognized in the year of disposal as a component of other income, net.

Depreciation on property and equipment, including assets held under finance leases, is calculated using the straight-line method over the following useful service lives or lease term (which includes reasonably assured renewal

	Years
Buildings	30
Building equipment and leasehold improvements	1 - 15
Machinery and equipment and service equipment	5 - 12
Computers and software	3 - 5
Furniture and fixtures	3 - 5
Vehicles	2 - 4
Right of use assets - finance leases	(Lease term) 3 - 10

Business Combinations, Goodwill and Identifiable Intangible Assets

Business combinations are accounted for under the acquisition method of accounting in accordance with ASC 805, Business Combinations. Under the acquisition method of accounting, the total consideration transferred in connection with the acquisition is allocated to the tangible and intangible assets acquired, liabilities assumed, and any non-controlling interest in the acquiree based on their fair values. Goodwill acquired in connection with business combinations represents the excess of consideration transferred over the net tangible and identifiable intangible assets acquired. Certain assumptions and estimates are employed in evaluating the fair value of assets acquired and liabilities assumed. These estimates may be affected by factors such as changing market conditions, technological advances in the oil and natural gas industry or changes in regulations governing that industry. The most significant assumptions requiring judgment involve identifying and estimating the fair value of intangible assets and the associated useful lives for establishing amortization periods. To finalize purchase accounting for significant acquisitions, we utilize the services of independent valuation specialists to assist in the determination of the fire value of accurred intangible assets.

Costs incurred related to an acquisition or business combination, other than those associated with the issuance of debt or equity securities, are expensed as incurred. Any contingent consideration payable is recognized at fair value at the acquisition date. Liability-classified contingent consideration is remeasured each reporting period with changes in fair value recognized in earnings until the contingent consideration is settled.

All identifiable intangibles with definite lives are amortized on a straight-line basis over the estimated useful life or term of related agreements. Certain costs incurred in the development of internal-use software applications are capitalized, while costs incurred outside of the software application development stage are expensed as incurred. The amounts capitalized are included in intangible assets, categorized as internally developed software, and are amortized on a straight-line basis over the estimated useful life of the software when ready for the intended use. These assets are tested for impairment whenever events or changes in circumstances indicate that their carrying amount may not be recoverable.

Lagra

We determine if a contract contains a lease at the inception of an arrangement. If so, we record a right of use ("ROU") asset representing the right to use an underlying asset for the lease term and a lease liability representing an obligation to make lease payments arising from the lease on the consolidated balance sheet.

We have operating and finance leases for facilities, vehicles, and equipment. Some leases include one or more options to renew, with renewal terms that can extend the lease term from five to ten years with exercise of lease renewal options being at the sole discretion of NCS as lessee. Some leases may include an option to terminate the contract with notice. ROU assets and lease liabilities recorded pursuant to a lease agreement with a term exceeding 12 months are recognized at the lease commencement date based on the present value of lease payments over the lease term. To the extent our lease agreements do not provide an implicit interest rate, the current interest rate pursuant to our secured asset-based revolving credit facility "ABL Facility"), adjusted on a monthly annual basis, is used as an incremental borrowing rate applied to the present value calculation at the lease commencement date unless the implicit rate is readily determinable. Lease expense for operating leases is recognized on a straight-line basis over the lease term.

Our lease agreements are from a lessee perspective and do not contain (i) any leases with variable lease payments (e.g., payments that depend on a percentage of sales of a lessee or payments that increase based upon an index such as a consumer price

index), (ii) residual value guarantees probable of being paid, except leased fleet vehicles, or (iii) material restrictive covenants. Lease agreements with lease and non-lease components are generally accounted for separately when practical. For leases where the lease and non-lease component are comingled and the non-lease component to be insignificant when compared to the lease and non-lease components are treated as a single lease component for all asset classes.

As of December 31, 2022, we have no significant leases where we are the lessor, and we do not have any additional significant operating or finance leases that have not yet commenced which create significant rights or obligations for NCS. For additional information, see "Note 9. Debt" and "Note 14. Leases."

Income Taxes

We are taxed as a corporation as defined under the Internal Revenue Code. The liability method is used in accounting for deferred income taxes. Under this method, deferred tax assets and liabilities are determined based on the difference between the financial reporting and tax bases of assets and liabilities and are measured using the enacted tax rates and laws that will be in effect when these differences are expected to reverse. The realizability of deferred tax assets is evaluated annually and a valuation allowance is provided if it is more likely than not that the deferred tax assets will not give rise to future benefits. We follow guidance in ASC 740, Income Taxes, for uncertainty in income tax position is required to meet before being recognized in the consolidated financial statements. Each income tax position is assessed using a two-step process. A determination is first made as to whether it is more likely than not that the income tax position will be sustained, based upon technical merits, upon examination by the taxing authorities. If the income tax position is expected to meet the more likely than not criteria, the benefit recorded in the consolidated financial statements equals the largest amount that is greater than 50% likely to be realized upon its ultimate settlement. A valuation allowance to reduce deferred tax assets is established when it is more likely than not that some portion or all the deferred tax assets will not be realized. We recognize accrued interest and penalties related to uncertain tax positions in other income, net on the consolidated statements of operations.

Share-Rased Compensation

We account for our stock-based compensation awards in accordance with ASC 718, Compensation.—Stock Compensation. To measure the grant-date fair value of share-based compensation, we use the market price of our common stock for equity-classified restricted stock units ("RSUs") and equivalent stock units, or cash-settled, liability-classified RSUs ("ESUs"), the Black-Scholes model for options and a Monte Carlo simulation for the performance stock unit awards ("PSUs"). We measure all share-based compensation awards at fair value on the date they are granted and recognize the compensation expense in the financial statements over the requisite period and record forfeitures as they occur. As the ESUs will be settled in cash, we record a liability, which is remeasured each reporting period at fair value based upon the closing stock price of our common stock until the awards are settled.

Fair Value

The carrying amounts for financial instruments classified as current assets and current liabilities approximate fair value due to the short maturity of such instruments. The book values of other financial instruments approximates fair value because interest rates charged are comparable to other financial instruments with similar terms and maturities and the rates vary in accordance with a market index consistent with ASC 820, Fair Value Measurements.

For the financial assets and liabilities disclosed at fair value, fair value is determined as the exit price, or the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The established fair value hierarchy divides fair value measurement into three broad levels:

- Level 1—inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that the reporting entity has the ability to access at the measurement date;
- Level 2—inputs other than quoted prices included within Level 1 that are observable for the assets or liability, either directly or indirectly; and
- Level 3—inputs are unobservable for the asset or liability, which reflect the best judgment of management

The financial assets and liabilities that are disclosed at fair value for disclosure purposes are categorized in one of the above three levels based on the lowest level input that is significant to the fair value measurement in its entirety. Level 1 provides the most reliable measure of fair value, whereas Level 3 generally requires significant management judgment.

Earnings Per Share

Basic income (loss) per share is calculated by dividing net income (loss) attributable to NCS Multistage Holdings, Inc. by the weighted-average number of common shares outstanding during the period. The diluted income (loss) per share computation is calculated by dividing net income (loss) attributable to NCS Multistage Holdings, Inc. by the weighted-average number of common shares outstanding during the period, taking into effect, if any, shares that would be issuable upon the exercise of outstanding stock options and unvested RSUs and PSUs, reduced by the number of shares purchased by us at cost, when such amounts are dilutive to the income per share calculation.

Research and Development

Research and development costs are incurred both through the utilization of our employees to create and develop new ideas and products as well as through engaging third parties to perform development activities under our coordination and management. We incurred approximately \$2.7 million and \$2.1 million in research and development costs for the years ended December 31, 2022 and 2021, respectively. These costs are recorded in selling, general and administrative ("SG&A") expenses on the consolidated statements of operations. Occasionally a customer may contract us to provide research and development of a product, for which we are compensated. We recognize the revenue when the project is completed and accepted by the customer, and record the corresponding research and development costs as cost of goods sold. In addition, customers may agree to fund certain research and development activities for which we retain the rights to intellectual property. We recorded, and subsequently received, customer reimbursable amounts of \$1.7 million and \$0.1 million during the years ended December 31, 2022 and 2021, respectively, which are treated as a reduction of research and development costs included in SG&A expenses.

Recent Accounting Pronouncements

Pronouncement Adopted in 2022

In November 2021, the FASB issued ASU No. 2021-10, Government Assistance (Topic 832): Disclosures by Business Entities about Government Assistance, to increase transparency of disclosure regarding government assistance including the types of assistance, an entity's method of accounting for the assistance, and the effect of the assistance on an entity's financial statements. This standard became effective for fiscal years beginning after December 15, 2021. We adopted ASU No. 2021-10 on a prospective basis on January 1, 2022, with no material impact on our consolidated financial statements.

Pronouncement Not Yet Effective

In June 2016, the FASB issued ASU No. 2016-13, Financial Instruments-Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments. This ASU introduces a new impairment model that is based on expected credit losses farther than incurred credit losses for financial instruments, including trade accounts receivable. It requires an entity to measure expected credit losses for financial assets held at the reporting date based on historical experience, current conditions and reasonable and supportable forecasts. The new standard was to become effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. In November 2019, the FASB issued ASU No. 2019-10, which deferred the effective dates for certain accounting guidance. The effective date for ASU No. 2016-13 remained the same for public business entities that are SEC filers, except for entities who are deemed SRCs. The effective date for all other entities, including SRCs, begins during the first interim period of fiscal years beginning after December 15, 2022. NCS qualifies as an SRC. We have evaluated this guidance and determined the adoption on January 1, 2023 will not have a material impact on our consolidated financial statements.

Note 3. Revenues

Disaggregation of Revenue

We sell our products and services primarily in North America and in selected international markets. Revenue by geography is attributed based on the current billing address of the customer. See "Note 17. Segment and Geographic Information" for our disaggregated revenue by geographic area.

Contract Balances

If the timing of the delivery of products and provision of services is different from the timing of the customer payments, we recognize either a contract asset (performance precedes contractual due date in connection with estimates of variable consideration) or a contract liability (customer payment precedes performance) on our consolidated balance sheet.

The following table presents the current contract liabilities for the periods indicated (in thousands):

Balance at December 31, 2020	\$ 51
Additions	1,056
Revenue recognized	 (1,036)
Balance at December 31, 2021	\$ 71
Additions	1,963
Revenue recognized	(1,983)
Balance at December 31, 2022	\$ 51

We currently do not have any contract assets or non-current contract liabilities. Our contract liabilities as of December 31, 2022 and 2021 is included in current liabilities on our consolidated balance sheets. Our performance obligations for our product and services revenues are satisfied before the customer's payment; however, prepayments may occasionally be required. Revenue recognized from the contract liability balance was \$2.0 million and \$1.0 million for the years ended December 31, 2022 and 2021, respectively.

Contracts with Multiple Performance Obligations

Substantially all of our product and services revenues are considered a single performance obligation. Our self-service product line, which is a small percentage of our revenue for the years ended December 31, 2022 and 2021 is comprised of two performance obligations: (i) the delivery of tracer materials to a customer well site and (ii) the creation of diagnostic reports ordered by customers when we do not perform an integrated service. For these contracts, we do not allocate the transaction price as the individual performance obligations are sold at standadone prices in the customer order. The transaction prices for our self-service product line are determined as (i) the price per unit times the quantity of tracer materials and (ii) prices charged for diagnostic reports ordered by and delivered to the customer.

Practical Expedients

We generally expense sales commissions when incurred because the amortization period would have been one year or less. These costs are recorded within SG&A expenses on the consolidated statements of operations.

We do not disclose the value of unsatisfied performance obligations when the related contract has a duration of one year or less. We recognize revenue equal to what we have the right to invoice when that amount corresponds directly with the value to the customer of our performance to date.

Note 4. Inventories, net

Inventories consist of the following as of December 31, 2022 and 2021 (in thousands):

	December 31, 2022	December 31, 2021
Raw materials	\$ 2,135	\$ 1,844
Work in process	38	14
Finished goods	34,869	32,059
Total inventories, net	\$ 37,042	\$ 33,917

Note 5. Other Current Receivables

Other current receivables consist of the following as of December 31, 2022 and 2021 (in thousands):

	December 31,		December 31,
	2022		2021
Current income tax receivables	\$ 1,8	58 \$	2,226
Employee receivables	3.	54	238
Other receivables	1,50)4	2,262
Total other receivables, net	\$ 3,7		4,726

Employee receivables relate primarily to amounts paid by us for foreign withholding tax paid on behalf of employees working on international assignments, which is expected to be reimbursed to us by the employees when refunded as foreign tax credits on home-country tax returns. The other receivables balance as of December 31, 2022 and 2021 includes the U.S. employee retention credit ("ERC") claims we have filed but for which we have not yet received renumeration. The other receivables balance also includes \$0.7 million for each year ended December 31, 2022 and 2021 associated with our technical services and assistance agreement with Special Oilfield Services Co., LLC ("SOS"). See "Note 10. Commitments and Contingencies" for a discussion of both matters.

Note 6. Property and Equipment

Property and equipment by major asset class consist of the following as of December 31, 2022 and 2021 (in thousands):

	December 31, 2022	December 31, 2021
Land	\$ 1,592	\$ 1,701
Building and improvements	7,462	8,099
Machinery and equipment	18,156	18,152
Computers and software	2,107	2,256
Furniture and fixtures	748	1,037
Vehicles	262	313
Right of use assets - finance leases	11,231	10,228
Service equipment	57	244
	41,615	42,030
Less: Accumulated depreciation and amortization	(18,844)	(17,752)
	22,771	24,278
Construction in progress	545	430
Property and equipment, net	\$ 23,316	\$ 24,708

The following table presents the depreciation expense associated with the following income statement line items for the years ended December 31, 2022 and 2021 (in thousands):

	Year Ended December 31,				
	2022			2021	
Cost of sales					
Cost of product sales	\$	1,425	\$	1,399	
Cost of services		547		691	
Selling, general and administrative expenses		1,678		1,742	
Total depreciation	\$	3,650	\$	3,832	

The table above includes depreciation expense associated with finance leases for buildings as well as vehicles for our transportation fleet. See "Note 14. Leases."

We evaluate our property and equipment for impairment whenever changes in circumstances indicate that the carrying amount of an asset group may not be recoverable. We determined there were no triggering events that indicated potential impairment of our property and equipment for the years ended December 31, 2022 and 2021, respectively, and accordingly no impairment loss was recorded.

Note 7. Goodwill and Identifiable Intangibles

The carrying amount of goodwill is summarized as follows (in thousands):

	December 31,	December 31,
	2022	2021
Gross value	\$ 177,162	
Accumulated impairment	(161,940	(161,940)
Net	\$ 15,222	\$ 15,222

We perform an annual impairment analysis of goodwill as of December 31, or whenever there is a triggering event that indicates an impairment loss may have been incurred. If an impairment loss occurs, we separately disclose it in the consolidated statements of operations, as applicable. See "Note 2. Summary of Significant Accounting Policies - Impairments" for additional information.

As of December 31, 2022 and 2021, we elected to perform a qualitative assessment for Repeat Precision, our only reportable unit with goodwill, and determined the goodwill totaling \$15.2 million has a fair value that exceeds its net carrying value. Therefore, no impairment has been recorded for the years ended December 31, 2022 and 2021, respectively.

Identifiable intangibles by major asset class consist of the following (in thousands):

			December 31, 2022	
	Estimated Useful Lives (Years)	Gross Carrying Amount	Accumulated Amortization	Net Balance
Technology	1 - 20	\$ 3,958	\$ (604)	\$ 3,354
Customer relationships	10	4,100	(2,426)	1,674
Total amortizable intangible assets		\$ 8,058	\$ (3,030)	\$ 5,028
Technology - not subject to amortization	Indefinite	48	1 -	48
Total identifiable intangibles		\$ 8,106	\$ (3,030)	\$ 5,076

	Estimated	G	ross				<u> </u>
	Useful	Car	rying	Acci	ımulated		Net
	Lives (Years)	Am	ount	Amo	rtization		Balance
Technology	1 - 20	\$	3,958	\$	(346)	\$	3,612
Customer relationships	10		4,100		(2,016)		2,084
Total amortizable intangible assets		\$	8,058	\$	(2,362)	\$	5,696
Technology - not subject to amortization	Indefinite		48		_		48
Total identifiable intangibles		\$	8,106	\$	(2,362)	\$	5,744

December 31, 2021

We did not incur costs to renew or extend the term of acquired intangible assets during the years ended December 31, 2022 and 2021, respectively. Substantially all identifiable intangibles as of December 31, 2022 and 2021 are related to our Repeat Precision asset group.

Identifiable intangibles are tested for impairment whenever events or changes in circumstances indicate that their carrying amount may not be recoverable. Impairment charges related to identifiable intangibles are included in "Impairments" in the consolidated statements of operations. See "Note 2. Summary of Significant Accounting Policies - Impairments" for additional information. There were no indicators of impairment identified during the years ended December 31, 2022 or 2021. Therefore, we did not record any impairment charges related to our identifiable intangibles for the years ended December 31, 2022 or 2021, respectively.

Total amortization expense, which is associated with SG&A expenses on the consolidated statements of operations, was \$0.7 million for each of the years ended December 31, 2022 and 2021, respectively.

The total weighted average amortization period for intangible assets is 13 years and estimated future amortization expense by year is as follows (in thousands):

2023	\$ 669
2024 2025	669
2025	669
2026 2027	669
	292
Thereafter	2,060
Total	\$ 5.028

Note 8. Accrued Expenses

Accrued expenses consist of the following as of December 31, 2022 and 2021 (in thousands):

	December 31,		December 31,
	2022		2021
Accrued payroll and bonus	\$ 3,2		4,208
Property and franchise taxes accrual	3	10	550
Accrued other miscellaneous liabilities	8	24	1,565
	\$ 4.3	1 \$	6.323

Note 9. Debt

Our long-term debt consists of the following as of December 31, 2022 and 2021 (in thousands):

	mber 31, 2022	December 31, 2021	
Prior Senior Secured Credit Facility	\$ 	\$ -	
ABL Facility	_	_	_
Repeat Precision Promissory Note	56	-	_
Finance leases	7,870	7,81	18
Total debt	 7,926	7,81	18
Less: current portion	(1,489)	(1,48	83)
Long-term debt	\$ 6,437	\$ 6,33	35

The estimated fair value of total debt for the years ended December 31, 2022 and 2021 was \$6.8 million and \$7.5 million, respectively. At December 31, 2022, the fair value of the Repeat Precision Promissory Note (as defined below) approximated the carrying value due to a variable interest rate and the ability to repay the note at any time. The fair value of the finance leases was estimated using Level 2 inputs by calculating the sum of the discounted future interest and principal payments at our incremental borrowing rate through the date of maturity.

Below is a description of our financing arrangements

Prior Senior Secured Credit Facility

On May 1, 2019, we entered into a Second Amended and Restated Credit Agreement (the "2019 Credit Agreement") by and among NCS Multistage Holdings, Inc. ("NCSH") with Pioneer Investment, Inc., as U.S. borrower ("Pioneer"), NCS Multistage Inc., as Canadian borrower ("NCS Canada"; together with Pioneer, the "Borrowers"), Pioneer Intermediate, Inc. (together with NCSH, the "Parent Guarantors"), the lenders party thereto, Wells Fargo Bank, National Association as administrative agent (the "Prior U.S. Agent") in respect of the U.S. facility provided therein and Wells Fargo Bank, National Association, Canadian Branch, as administrative agent (the "Prior Canadian Agent") in respect of the Canadian Facility provided therein. The 2019 Credit Agreement amended and restated our then-existing credit agreement in its entirety.

On August 6, 2020, we entered into Amendment No. 1 to the Second Amended and Restated Credit Agreement (the "2020 Amendment"; the 2019 Credit Agreement, as amended by the 2020 Amendment, the "Prior Amended Credit Agreement") with the Borrowers, Pioneer Intermediate, Inc., certain subsidiaries of the Borrowers, the lenders party thereto, the Prior U.S. Agent and the Prior Canadian Agent. The facility provided pursuant to the Prior Amended Credit Agreement is referred to herein as the "Prior Senior Secured Credit Facility."

The Prior Senior Secured Credit Facility consisted of a senior secured revolving credit facility in an aggregate principal amount of \$25.0 million made available to Pioneer. NCS Canada could borrow under the Prior Senior Secured Credit Facility, subject to a \$15.0 million sublimit. Total borrowings available to the Borrowers under the Prior Senior Secured Credit Facility were limited subject to a borrowing base calculated on eligible receivables, which did not include receivables at Repeat Precision. As of December 31, 2021, we had no outstanding indebtedness under the Prior Senior Secured Credit Facility, and we utilized letter of credit commitments of less than \$0.1 million.

Borrowings under the Prior Senior Secured Credit Facility could be made in USD for Adjusted Base Rate Advances, and in USD, Canadian dollars or Euros for Eurocurrency Rate Advances (each as defined in the Prior Amended Credit Agreement). Such advances bore interest at the Adjusted Base Rate or at the Eurocurrency Rate (each as defined in the Prior Amended Credit Agreement) plus an applicable interest margin between 2.75% and 3.75%, depending on our leverage ratio. We incurred interest expense related to the Prior Senior Secured Credit Facility, including commitment fees, of \$47 thousand and \$0.1 million for the years ended December 31, 2022 and 2021, respectively.

The obligations of the Borrowers under the Prior Senior Secured Credit Facility were guaranteed by the Parent Guarantors, as well as each of the other existing and future direct and indirect restricted subsidiaries of NCS organized under the laws of the United States and Canada (subject to certain exceptions), and were secured by substantially all of the assets of the Parent Guarantors, the Borrowers and such other subsidiary guarantors, in each case, subject to certain exceptions and permitted liens.

We capitalized direct costs of \$1.2 million in connection with the Prior Amended Credit Agreement, which we amortized over the term of the Prior Senior Secured Credit Facility using the straight-line method.

Concurrent with our entry into a replacement asset-based revolving credit facility on May 3, 2022, as further discussed below, the Prior Senior Secured Credit Facility and the Prior Amended Credit Agreement were terminated. Of the unamortized remaining deferred loan costs associated with the Prior Senior Secured Credit Facility totaling \$0.3 million, we charged \$0.2 million to interest expense, net during the second quarter of 2022, associated with the members of the lender group who did not continue with the new facility, and deferred \$0.1 million, along with new deferred loan costs associated with the replacement facility, to be amortized over the term of the new facility.

ARL Facility

On May 3, 2022, we entered into a new ABL Facility under which credit availability is subject to a borrowing base calculation. The ABL Facility is governed by the Credit Agreement dated as of May 3, 2022, by and between NCSH, Pioneer, NCS Multistage, LLC, NCS Canada, the other loan parties thereto, the lenders party thereto, and JPMorgan Chase Bank, N.A., as administrative agent and as a lender under the facility provided therein (the "Credit Agreement")

The ABL Facility consists of a revolving credit facility in an aggregate principal amount of \$35.0 million made available to borrowers, of which up to \$10.0 million may be made in Canadian dollars and \$7.5 million may be made available for letters of credit. Total borrowings available to the borrowers under the ABL Facility may be limited subject to a borrowing base calculated on the sum of cash in a specified pledged account, eligible accounts receivables and eligible inventory, provided it does not include the assets of Repeat Precision. Our borrowing base under the ABL Facility at December 31, 2022 was \$18.6 million. The ABL Facility will mature on May 3, 2027. As of December 31, 2022, we had no outstanding indebtedness under the ABL Facility.

Borrowings under the ABL Facility may be made in U.S. dollars with interest calculated using either the "ABR", the "Adjusted Daily Simple SOFR" or the "Adjusted Term SOFR Rate", and in Canadian dollars with interest calculated using the "Canadian Prime Rate" or the "CDOR Rate" (each as defined in the Credit Agreement). Borrowings bear interest plus a margin that varies depending on our leverage ratio as follows: (i) for ABR based loans, between 1.40% and 2.40%, and (ii) for Adjusted Daily Simple SOFR, Adjusted Term SOFR Rate, Canadian Prime Rate, and CDOR Rate, between 2.40% and 3.40%. We must also pay a monthly commitment fee of 0.25% to 0.50% per year, based on unused commitments. The applicable interest rate at December 31, 2022 was 6.8%. We incurred interest expense related to the ABL Facility, including commitment fees, of \$0.1 million for the year ended December 31, 2022.

The obligations of the borrowers under the ABL Facility are guaranteed by NCSH and each of our U.S. and Canada subsidiaries (other than Repeat Precision), as well as each of our future direct and indirect subsidiaries organized under the laws of the United States or Canada (subject to certain exceptions), and are secured by substantially all of the assets of NCSH and its subsidiaries, in each case, subject to certain exceptions and permitted liens.

The Credit Agreement requires, as a condition to borrowing, that available cash on hand after borrowings does not exceed \$10.0 million. The Credit Agreement also requires us to (i) maintain, for quarters during which liquidity is less than 20% of the aggregate revolving commitments, a fixed charge coverage ratio of at least 1.0 to 1.0 and (ii) to prepay advances to the extent that the

outstanding loans and letter of credit amounts exceed the most recently calculated borrowing base. As of December 31, 2022, we were in compliance with these financial covenants. The Credit Agreement also contains customary affirmative and negative covenants, including, among other things, restrictions on the creation of liens, the incurrence of indebtedness, investments, dividends and other restricted payments, dispositions and transactions with affiliates

The Credit Agreement includes customary events of default for facilities of this type (with customary materiality thresholds and grace periods, as applicable). If an event of default occurs, the lenders party to the Credit Agreement may elect (after the expiration of any applicable notice or grace periods) to declare all outstanding borrowings under such facility, together with accrued and unpaid interest and other amounts payable thereunder, to be immediately due and payable. The lenders party to the Credit Agreement also have the right upon an event of default thereunder to terminate any commitments to provide further borrowings, or to provide additional financing in excess of the borrowing base limit, or to proceed against the collateral securing the ABL Facility.

We capitalized direct costs of \$1.0 million in connection with the Credit Agreement, which are being amortized over the term of the ABL Facility using the straight-line method. Amortization of the deferred financing charges of \$0.1 million was included in interest expense, net for the year ended December 31, 2022.

On February 16, 2018, Repeat Precision entered into a promissory note for an aggregate borrowing capacity of \$4.3 million with Security State Bank & Trust, Fredericksburg (the "Repeat Precision Promissory Note was originally scheduled to mature on February 11, 2023, but has since been extended to August 10, 2024. The note bears interest at a variable interest rate based on prime plus 1.00%. The applicable interest rate at December 31, 2022 was 8.5%. The Repeat Precision Promissory Note is collateralized by certain equipment, inventory and receivables. Total borrowings may be limited subject to a borrowing base calculation, which includes a portion of Repeat Precision's eligible receivables, inventory and equipment. As of December 31, 2022, Repeat Precision had \$56 thousand of outstanding indebtedness under the note. There was no outstanding indebtedness under the Repeat Precision Promissory Note at December 31, 2021. Repeat Precision's indebtedness is guaranteed by Repeat Precision and its subsidiary and is not guaranteed by any other NCS entity.

We lease assets under finance lease arrangements including an office and laboratory in Tulsa, Oklahoma, as well as facilities in Odessa, Texas. We also maintain a vehicle leasing arrangement with a fleet management company through which we lease light vehicles and trucks that meet the finance lease criteria. See "Note 14. Leases" for additional information.

Note 10. Commitments and Contingencies

Litigation

In the ordinary course of our business, from time to time, we have various claims, lawsuits and administrative proceedings that are pending or threatened with respect to commercial, intellectual property and employee matters.

In connection with our patent infringement jury verdict against Nine Energy Services, Inc. ("Nine"), the Western District of Texas, Waco Division ("Waco District Court") entered final judgment in June 2022, and awarded NCS approximately \$0.5 million in damages for Nine's infringement of U.S. Patent No. 10,465,445 ("the '445 Patent"). At a hearing in December 2022, the Waco District Court announced it would be awarding hundreds of thousands of dollars in supplemental damages, interest, and costs and ordered Nine to pay an ongoing royalty for the sale of infringing casing flotation devices for the life of the '445 Patent. In addition, in August 2022 in connection with our patent infringement jury verdict against TCO AS, the jury awarded NCS approximately \$1.9 million in damages for TCO AS's infringement of the '445 Patent. Once the Waco District Court enters final judgment in that case, NCS will seek an award of ongoing royalties for TCO AS's continued post-judgment infringement, supplemental damages, interest, and costs. Both of these cases remain subject to appeal. Therefore, we have not recorded any potential gain contingencies associated with these matters in the accompanying consolidated statements of operations.

In accordance with GAAP, we accrue for contingencies where the occurrence of a material loss is probable and can be reasonably estimated, based on our estimate of the expected liability. If we have any outstanding legal accruals, we may increase or decrease these in the future, on a matter-by-matter basis, to account for developments. Our assessment of the likely outcome of litigation matters is based on our judgment of a number of factors, including experience with similar matters, past history, precedents, relevant financial information and other evidence and facts specific to the matter. While the outcome of any legal proceeding cannot be predicted with any certainty, based on a consideration of relevant facts and circumstances, our management currently does not expect that the results of these legal proceedings will have a material adverse effect on our financial position, results of operations or cash flows.

Technical Services and Assistance Agreement

We entered into a technical services and assistance agreement with SOS, which is effective until the expiration of a specified contract between SOS and a third party or the expiration of other contracts entered into subsequent to the specified contract. Pursuant to the agreement, NCS provides chemical tracers and radioactive isotopes at a stated contract price with revenue recognized on the delivery of these materials when performance obligations are met. In addition, we provide technical support, training, literature and further technical back up to SOS pursuant to a collaborative arrangement. In consideration of these technical services, SOS shares the net profit or loss, excluding certain non-eash items, arising out of the specified contractual arrangement equally with NCS at the end of each year. The net profit or loss is calculated based on total revenues less expenses per year with SOS deducting a 10% withholding tax on any profit payable to NCS. All assets of the contractual arrangement are owned by SOS. The amount of profit sharing is determined at the end of the performance year, subject to an annual adult which is typically completed during the first quarter of the succeeding year. However, at the end of the performance period as of December 31, when the amount of the profit sharing is probable and reasonably estimable, we record a receivable related to this profit sharing provision, which totaled \$0.7 million, subject to withholding tax of \$0.1 million for each of the years ended December 31, 2022 and 2021. A portion of the profit sharing income is allocated to tracer diagnostics services based upon the ratio of the standalone fair market value of the tracer materials and profit sharing elements of the contractual arrangement. For the years ended December 31, 2021, we have recorded tracer diagnostics services revenue of \$1.2 million and \$0.9 million, respectively, and other income, net totaling \$0.7 million and \$0.5 million, respectively, related to this agreement in the consolidated statements of op

Employee Retention Credit

A series of legislation was enacted in the United States during 2020 and 2021 in response to the COVID-19 pandemic that provided financial relief for individuals and businesses impacted by government-mandated shutdowns or work stoppages or other losses suffered by employers due to year-over-year revenue declines of at least 50%. The laws enacted refined the definition of small business employers to those who had fewer than 500 employees during 2019, and provided that qualified employers could (i) claim a refundable tax credit up to 70% of \$10 thousand in eligible wages per U.S. employee, or a maximum benefit of \$7 thousand per employee per quarter, for the first, second and third quarters of 2021 and (ii) qualify for expanded credits available for fiscal 2020. The ERC credits reduced the employer's portion of social security tax and permitted the deferral of the payment of certain employer payroll taxes incurred in 2020 until December 2021 and 2022.

We evaluated our eligibility for the ERC and determined that we were eligible for refundable tax credits totaling \$3.2 million for the year ended December 31, 2021, of which \$0.9 million was included in cost of sales and \$2.3 million was included in general and administrative expenses in the accompanying consolidated statements of operations. The refundable tax credits included \$0.5 million pertaining to Repeat Precision. Of the aggregate credits claimed during 2021, we received \$2.1 million in 2021 and \$0.2 million in 2022. We have included \$0.9 million and \$1.1 million, respectively, in other current receivables on our consolidated balance sheets as of December 31, 2022 and 2021. See "Note 5. Other Current Receivables." All deferred employer payroll tax from 2020 has been timely remitted as of December 2022, as required.

Note 11. Stockholders' Equity

Authorized and Outstanding Shares

At December 31, 2022 and 2021, we had 11,250,000 shares of common stock authorized to be issued. At December 31, 2022 and 2021, 2,408,474 and 2,380,374 shares of common stock were outstanding, respectively. At December 31, 2022 and 2021, the number of our authorized shares of preferred stock included 10,000,000 shares, with none outstanding.

Votino

The holders of common stock are entitled to one vote for each share of common stock held.

Dividends

The holders of common stock are entitled to receive dividends as declared from time-to-time by our Board, to the extent permitted under the ABL Facility. No dividends were declared during the years ended December 31, 2022 and December 31, 2021.

Note 12. Share-Based Compensation

Equity Incentive Plan

We maintain an equity incentive plan for the benefit of our employees, directors and other service providers: our 2017 Equity Incentive Plan (the "2017 Plan"). Our previous equity incentive plan, the 2012 Equity Incentive Plan (the "2012 Plan"), terminated on December 20, 2022, provided that any outstanding awards remain outstanding in accordance with the terms of the applicable award agreement. As of December 31, 2022, there remain 6,219 options outstanding, all of which are exercisable pursuant to the 2012 Plan.

The 2017 Plan provides for awards of stock options, stock appreciation rights, restricted stock awards, RSUs, stock awards and performance awards. Awards under the 2017 Plan may be granted to any employee, non-employee director, consultant or other personal service provider of NCS. The 2017 Plan is administered by a plan administrator, which is the Compensation, Nominating and Governance Committee or such other committee of the Board or the Board as a whole, in each case as determined by the Board. The 2017 Plan was initially established with the authorization for grants of up to 226,626 shares of authorized but unissued shares of common stock. During 2020, NCS increased the number of authorized shares by 325,000 shares of common stock, which increased the maximum aggregate number of shares available to be issued under the 2017 Plan to 551,626 shares. As of December 31, 2022, the total number of shares available for future issuance under the 2017 Plan is 243,354 shares.

Restricted Stock Units

In 2017, we began granting RSUs. We account for RSUs granted to employees at fair value, which we measure as the closing price of our common stock on the date of grant, and we recognize the compensation expense in the financial statements over the requisite service period. The RSUs granted to our employees generally vest over a period of three equal annual installments beginning on or around the anniversary of the date of grant. Beginning in 2019, the RSUs granted to the members of our Board generally vest on the one year anniversary of the grant date and settle either at vesting or, if the director has elected to defer the RSUs, the earlier of the termination of the director's service for any reason or a change of control.

The following table summarizes RSU activity during the year ended December 31, 2022:

	Number of Awards	Weighte Averag Grant D Fair Val	ge Date
Non-vested at December 31, 2021	76,923	\$	47.61
Granted	89,669		39.69
Vested (including 11,151 shares that have not been released)	(45,991)		53.83
Forfeited	(1,888)		41.18
Non-vested at December 31, 2022	118,713	\$	39.32

The total value of RSUs that vested and released was \$1.6 million and \$1.0 million during the years ended December 31, 2022 and 2021. For 2022 and 2021, the income tax benefit recognized for RSUs was \$0.3 million and \$0.2 million, respectively. As of December 31, 2022, there was \$2.9 million of total unrecognized compensation cost related to RSUs, which we expect to recognize over a weighted average period of two years.

Equivalent Stock Unit Awards

In 2019, we began granting ESUs. When the ESUs are granted to employees, they are valued at fair value, which we measure as the closing price of our common stock on the date of grant. As the ESUs are settled in cash, we record a liability which is remeasured each reporting period at fair value based upon the closing price of our common stock until the awards are settled. The ESUs will generally vest and settle ratably in three equal annual installments beginning on or around the anniversary of the date of grant. The cash settled for any ESU will not exceed the maximum payout established by our Compensation, Nominating and Governance Committee of the Board.

The following table summarizes ESU activity during the year ended December 31, 2022:

		Weighted	d
		Average	è
	Number of	Grant Dat	ıte
	Awards	Fair Valu	1e
Non-vested at December 31, 2021	132,576	\$	31.77
Granted	67,297		39.41
Vested	(61,309)		35.09
Forfeited	(2,708)		35.31
Non-vested at December 31, 2022	135.856	\$	33.98

During the years ended December 31, 2022 and 2021, we paid \$2.6 million and \$1.8 million, respectively, upon settlement of the ESUs. As of December 31, 2022, the total liability for ESUs was \$1.5 million.

Performance Stock Unit Awards

We have granted PSUs to certain executives on an annual basis since 2018. PSUs provide for the recipients to receive a grant of shares of common stock based upon the achievement of certain performance goals over a specified period established by the Compensation, Nominating, and Corporate Governance Committee. The number of PSUs ultimately issued is dependent upon our total shareholder return relative to our performance peer group ("relative TSR") over a three-year performance period. Each PSU will settle for between zero and two shares of our common stock. For PSUs granted prior to 2021, the threshold performance level (25th percentile relative TSR) starts to earn PSUs, the mid-point performance level (50th percentile relative TSR) earns 65% of the target PSUs and the maximum performance level (90th percentile relative TSR) or greater earns 200% of the target PSUs. For PSU grants starting in 2021, the mid-point performance level (50th percentile relative TSR) earns 100% of the target PSUs and all other performance levels remain the same as prior years.

The PSUs grant date fair values in 2022 and 2021 were measured using a Monte Carlo simulation with the following assumptions and the resulting weighted-average grant date fair value per share:

		November 2022		March 2022	February 2021
Grant date		November 1, 2022		March 2, 2022	February 28, 2021
Performance period	January 1,	2023 to December 31, 2025	January	1, 2022 to December 31, 2024	January 1, 2021 to December 31, 2023
Volatility		95.6 %		102.1 %	103.5 %
Risk-free interest rate		4.4 %		1.6 %	0.3 %
Expected dividends		— %		— %	— %
Grant date price	\$	30.50	\$	42.90	\$ 38.50
Weighted-average fair value per share	\$	49.52	\$	71.28	\$ 66.14

The following table summarizes PSU activity during the year ended December 31, 2022:

	Number of Awards	Average Grant Date Fair Value
Non-vested at December 31, 2021	68,810	\$ 36.07
Granted	40,677	58.86
Vested	_	_
Forfeited	(51,806)	26.20
Non-vested at December 31, 2022	57,681	\$ 61.00

As of December 31, 2022, there was \$2.4 million of total unrecognized compensation cost related to PSUs, which we expect to recognize over a weighted average period of two years.

Stock Options

Stock options granted under the 2012 Plan and the 2017 Plan generally vested annually in equal increments over three or five years and have a 10-year term. We estimated the fair value of each option grant using the Black-Scholes option-pricing model. The Black-Scholes option pricing model required estimates of key assumptions based on both historical information and management 70

judgment regarding market factors and trends. Determining the appropriate fair value model and calculating the fair value of options required the input of highly subjective assumptions, including the expected volatility of the price of our stock, the risk-free rate, the expected term of the options and the expected dividend yield of our common stock. These estimates involved inherent uncertainties and the application of management's judgment. If factors changed and different assumptions were used, our share-based compensation expense could have been materially different.

When we were a private company, we issued certain stock options that were to vest only in connection with a change of control (the "Liquidity Options"), which were amended to vest in three equal installments when we completed our initial public offering during the second quarter of 2017. All outstanding stock options were fully vested as of December 31, 2021. Therefore, no compensation cost has been recognized related to stock options for the year ended December 31, 2022.

The following table summarizes stock option activity during the year ended December 31, 2022:

2012 Equity Plan and 2017 Equity Plan	Service Based Options	Liquidity Options	Total Options	Service Based Weighted Average Exercise Price	Based Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (Years)	Weighted Average Remaining Contractual Life (Years)
Outstanding at December 31, 2021	39,234	58,582	97,816	\$ 123.74	\$ 121.07	1.12	1.07
Expired during the year	(36,385)	(54,580)	(90,965)	117.57	117.60		
Outstanding at December 31, 2022	2,849	4,002	6,851	\$ 202.62	\$ 168.43	1.98	1.47
Exercisable as of December 31, 2022	2,849	4,002	6,851	\$ 202.62	\$ 168.43	1.98	1.47

Aggregate intrinsic value represents the difference between our estimated fair value of common stock and the exercise price of outstanding in the money options. As of December 31, 2022, we had no outstanding in the money options and no outstanding and exercisable aggregate intrinsic values. No options were exercised during the years ended December 31, 2022 and 2021.

Total Share Based Compensation Expense

The following table summarizes share-based compensation expense recognized in SG&A expense in our consolidated statements of operations and our related tax benefit for the years ended December 31, 2022 and 2021, respectively (in thousands):

	Year Ended December 31,		
	2022		2021
Restricted stock units	\$ 2,20	5 \$	2,605
Equivalent stock units	2,58	5	2,400
Performance stock unit awards	1,24	8	1,610
Stock options	_	-	6
Total share-based compensation expense	\$ 6,03	9 \$	6,621
Related income tax benefit	\$ 80	2 \$	572

Note 13. Employee Benefit Plan

Under the terms of the U.S. 401(k) plan, we match 100% of up to the first 3% of eligible compensation an employee contributes and 50% of up to the next 2% of eligible compensation contributed. Similarly, our Canadian employees are eligible to participate in the Group Registered Retirement Savings Program where NCS matches 100% of up to 4% of eligible compensation that an employee contributes. All eligible employees may make tax deferred contributions to the plan. Contributions made on behalf of Canadian employees by NCS are taxable income to the employee and may not exceed the Canadian Revenue Agency's deduction limit for the given year. The employer contributions for the 401(k) plan and the Group Registered Retirement Savings Program were suspended beginning on June 1, 2020 and reinstated on January 1, 2022.

In addition, Repeat Precision, maintains a simple IRA plan for eligible employees who may contribute a percentage of their compensation subject to a maximum imposed by the Internal Revenue Code, with Repeat Precision making a matching contribution of up to 3% of the eligible compensation an employee contributes.

Our contributions to all of these benefit plans were \$1.0 million and \$53 thousand, for the years ended December 31, 2022 and 2021, respectively

Note 14. Leases

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

Leases	Consolidated Balance Sheet Classification	1	December 31, 2022	December 31, 2021
Assets				
Operating (1)	Operating lease assets	\$	4,515	\$ 4,809
Finance (2)	Property and equipment, net		7,771	7,690
Total leased right-of-use assets		\$	12,286	\$ 12,499
Liabilities				
Current				
Operating (1)	Operating lease liabilities	\$	1,274	\$ 1,556
Finance	Operating lease liabilities Current maturities of long-term debt		1,433	1,483
Noncurrent				
Operating (1)	Operating lease liabilities, long-term Long-term debt, less current maturities		3,680	3,779
Finance	Long-term debt, less current maturities		6,437	6,335
Total lease liabilities		\$	12,824	\$ 13,153

- During the year ended December 31, 2022, we entered into three operating leases and renewed four others for our facilities in various locations. We recorded long-term ROU assets totaling approximately \$1.4 million and corresponding operating lease liabilities. The leases have renewal terms from three to approximately six years.

 (2) Finance lease right-of-use assets are recorded net of accumulated amortization of \$3.5 million and \$2.5 million as of December 31, 2022 and 2021, respectively.

The components of lease expense are as follows (in thousands):

			Year Ended December 31,				
Lease Cost	Consolidated Statements of Operations Classification	·	2022	2021			
Finance lease cost:							
Amortization of right-of-use assets	Depreciation	\$	1,531 \$	1,461			
Interest on lease liabilities	Interest expense, net		364	327			
Operating lease cost	Cost of sales; Selling, general and administrative expenses		1,497	1,832			
Short-term lease cost	Cost of sales; Selling, general and administrative expenses		896	1,138			
Total lease cost		\$	4,288 \$	4,758			

Total operating lease expense included in the consolidated statements of operations was \$2.4 million and \$3.0 million for the years ended December 31, 2022 and 2021, respectively.

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

	Year Ended December 31,		
Supplemental Cash Flow Disclosures	2022	2021	
Cash paid for amounts included in measurement of lease liabilities:			
Operating cash flows from operating leases	\$ 1,706	\$ 2,340	
Operating cash flows from finance leases	364	327	
Return of vehicles under finance lease	(142)	(187)	

Lease Term and Discount Rate	December 31, 2022	December 31, 2021
Weighted-average remaining lease term (years):		
Operating leases	3.6	4.3
Finance leases	6.1	7.0
Weighted-average discount rate:		
Operating leases	4.5 %	% 4.7 %
Finance leases	4.5 %	% 4.6 %
72		

Maturities of lease liabilities are as follows (in thousands):

Year Ending December 31,	 Operating Leases	Finance Leases
2023 2024	\$ 1,463	\$ 1,830
2024	1,375	1,557
2025	1,148	1,524
2026	919	1,231
2027	462	822
Thereafter	46	2,244
Total lease payments	\$ 5,413	\$ 9,208
Less: interest	(459)	(1,338)
Present value of lease liabilities	\$ 4,954	\$ 7,870

Note 15. Income Taxes

The provision (benefit) from income taxes consists of the following for the years ended December 31, 2022 and 2021 (in thousands):

		Year Ended December 31,		
		2022		2021
Current tax expense (benefit)				
U.S. Federal	\$	(291)	\$	37
State		116		(63)
Foreign		260		193
Total current		85		167
Deferred tax expense				
U.S. Federal	\$	_	\$	_
State		_		_
Foreign		266		96
Total deferred		266		96
Total income taxes	\$	351	\$	263

The following is the domestic and foreign components of our (loss) income before income taxes for the years ended December 31, 2022 and 2021 (in thousands):

	 Year Ended December 31,		
	2022	2021	
U.S. Federal	\$ (1,127)	\$ (9,775)	
Foreign	526	6,259	
Loss before income tax	\$ (601)	\$ (3,516)	

The following is a summary of the items that caused recorded income taxes to differ from income taxes computed using the statutory federal income tax rate for the years ended December 31, 2022 and 2021:

	Year Ended December 31,	
	2022	2021
Income tax at federal statutory rate	21.0 %	21.0 %
Increase (decrease) in income taxes resulting from:		
Foreign taxes on U.S. income	(7.4)%	(2.3)%
Non-controlling interest gain/losses	(53.3)%	(0.3)%
U.S. tax on foreign earnings	— %	0.1 %
Nondeductible expenses	(32.1)%	(8.4)% 4.2 %
Deductible foreign taxes	36.3 %	4.2 %
Non U.S. income taxed at different rates	(18.3)%	(4.0)%
Research and other tax credits	57.8 %	6.3 %
Effect of rate change on deferred tax	(2.8)%	(1.8)%
Stock-based compensation	(656.7)%	(29.7)%
State taxes	(104.1)%	(1.4)%
Change in valuation allowance	675.5 %	(3.4)%
Other	25.7 %	12.2 %
Income tax	(58.4)%	(7.5)%

We recorded a tax expense of \$0.4 million and \$0.3 million for the years ended December 31, 2022 and 2021, respectively. For the years ended December 31, 2022 and 2021, our effective tax rates were (58.4)% and (7.5)%, respectively.

Included in tax expense (benefit) for the year ended December 31, 2022 was a benefit of \$(4.1) million related to changes in valuation allowance on deferred tax assets not expected to be realized, an expense of \$0.4 million related to stock awards, a benefit of \$(0.1) million related to the effects of taxes on foreign operations, and an expense of \$0.6 million related to state taxes.

Included in tax expense (benefit) for the year ended December 31, 2021, was an expense of \$1.0 million for tax effects of stock awards and a benefit of \$(0.2) million related to effects of taxes on foreign operations.

The tax effects of temporary differences that give rise to significant portions of deferred tax assets and deferred tax liabilities as of December 31, 2022 and 2021 are as follows (in thousands):

	December 31,		
	2022	2021	
Deferred tax assets			
Accruals not currently deductible	\$ 3,165	\$ 6,902	
Depreciation and amortization	9,593	10,787	
Tax loss carryforward	3,775	2,329	
Other	1,799	2,456	
	18,332	22,474	
Valuation allowance for deferred tax assets	(18,288)	(22,198)	
Total deferred tax assets	44	276	
Deferred tax liabilities			
Foreign currency translation	(148)	(120)	
Other	(49)	(34)	
Total deferred tax liabilities	(197)	(154)	
Net deferred tax assets (liabilities)	\$ (153)	\$ 122	

The above are included in the accompanying consolidated balance sheet as follows (in thousands):

		Decen	iber 31,
	_	2022	2021
Deferred income tax assets—noncurrent	3	\$ 46	\$ 236
Deferred income tax liabilities—noncurrent	_	(199)	(114)
	<u> </u>	(153)	\$ 122

A valuation allowance has been provided for \$15.4 million and \$20.6 million against U.S. deferred tax assets as of December 31, 2022 and 2021, respectively. Also, a valuation allowance has been provided for \$2.3 million and \$1.3 million against

Canadian deferred tax assets as of December 31, 2022 and 2021, respectively. We believe we have not met the more likely than not condition of realizing the benefits of these assets based on management's position regarding the existence of sufficient projected taxable income of the appropriate character.

As of December 31, 2022 and 2021, there were no material amounts that had been accrued with respect to uncertain tax positions. We believe that there are no tax positions taken or expected to be taken as of December 31, 2022 and 2021 that would significantly increase or decrease unrecognized tax benefits within the next twelve months following the balance sheet date. We file income tax returns in the United States, Canada and various state and foreign jurisdictions. Our U.S. income tax returns for 2019 and subsequent years remain open for examination.

Note 16. Loss Per Share

The following table presents the reconciliation of the numerator and denominator for calculating loss per share from net loss (in thousands, except per share data):

	Year Ended 1	December 31,
	2022	2021
Numerator		
Net loss	\$ (952)	\$ (3,779)
Less: income attributable to non-controlling interest	150	955
Net loss attributable to NCS Multistage Holdings, Inc.	\$ (1,102)	\$ (4,734)
Denominator		
Basic weighted average number of shares	2,432	2,396
Basic weighted average number of shares Dilutive effect of other equity awards	_	_
Diluted weighted average number of shares	2,432	2,396
Loss per common share		
Basic	\$ (0.45)	\$ (1.98)
Diluted	\$ (0.45)	\$ (1.98)
Potentially dilutive securities excluded as anti-dilutive	194	239

Note 17. Segment and Geographic Information

We have determined that we operate in one reportable segment that has been identified based on how our chief operating decision maker manages our business.

Revenue by country for 2022 and 2021 is attributed based on the current billing address of the customer. The following table summarizes revenue by geographic area (in thousands):

	Year Ended December 31,		
	2022		2021
United States			
Product sales	\$ 34,009	\$	26,285
Services	12,228		8,870
Total United States	46,237		35,155
Canada			
Product sales	71,176		53,401
Services	 29,695		19,682
Total Canada	100,871		73,083
Other Countries			
Product sales	674		3,537
Services	7,850		6,727
Total Other Countries	8,524		10,264
Total			
Product sales	105,859		83,223
Services	 49,773		35,279
Total revenues	\$ 155,632	\$	118,502

The following table summarizes long-lived assets (defined as property and equipment, net and operating lease assets) by geographic area (in thousands):

	December 31,	December 31,
	2022	2021
United States	\$ 16,861	\$ 17,835
Canada	9,265	9,604
Other Countries	1,705	2,078
	\$ 27,831	\$ 29,517

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

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Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Our management, including our Chief Executive Officer and Chief Financial Officer, conducted an evaluation of the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act")) as of December 31, 2022. Based on this evaluation, our Chief Executive Officer and Chief Financial Officer concluded that, as of December 31, 2022, our disclosure controls and procedures were effective to provide reasonable assurance that information required to be disclosed in the reports we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and that such information is accumulated and communicated to management, including our Chief Executive Officer and Chief Financial Officer, to allow timely decisions regarding required disclosure.

Management's Annual Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rule 13a-15(f) and 15d-15(f) of the Exchange Act)

Our management, including the Chief Executive Officer and the Chief Financial Officer, conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in "Internal Control Integrated Framework" (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation, management concluded that the Company's internal control over financial reporting was effective at December 31, 2022.

In addition, since we are a non-accelerated filer, our independent registered public accounting firm is not required to attest to the effectiveness of our internal control over financial reporting as long as we remain a non-accelerated filer.

Changes in Internal Control Over Financial Reporting

There were no changes to our internal control over financial reporting that occurred during the quarter ended December 31, 2022 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information

None.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

Not applicable.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

Code of Business Conduct and Ethics

We have a Code of Business Conduct and Ethics that applies to our employees, officers and directors, and all subsidiaries and entities controlled by us. A copy of the code is available in the "Corporate Governance" section of the "Investors" page of our website located at http://ir.ncsmultistage.com. Any amendments to or waivers from our code for our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions, will be disclosed on our Internet website promptly following the date of such amendment or waiver.

The other information required by this Item will be included in the Company's definitive proxy statement for the 2023 Annual Meeting of Stockholders (the "2023 Proxy Statement") to be filed with the SEC and is incorporated herein by reference

Item 11. Executive Compensation

The information required by this Item will be included in the Company's 2023 Proxy Statement to be filed with the SEC and is incorporated herein by reference.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The following table shows information relating to the number of shares of common stock authorized for issuance under our equity compensation plans as of December 31, 2022, including the 2017 Plan, the 2012 Plan, and the Employee Stock Purchase Plan (the "ESPP")

	Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights (1)	Weighted Average Exercise Price of Outstanding Options, Warrants and Rights (2)	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (3)
Equity compensation plans			
Approved by stockholders	213,475	\$ 182.65	329,770
Not approved by stockholders	_	\$ _	_

- (1) Includes common stock underlying shares to be issued in connection with vested RSUs subject to delayed settlement. Also, includes common stock underlying outstanding PSUs, stock options and RSUs. The number of shares
- subject to outstanding PSUs is based on the target number of shares subject to each award, but the number of shares issued could be higher if performance metrics are met. RSUs and PSUs are excluded when determining the weighted-average exercise price.

 Includes 86,416 shares remaining available for issuance under the ESPP, which was suspended for future offering periods beginning on July 1, 2019.

The other information required by this Item will be included in the Company's 2023 Proxy Statement to be filed with the SEC and is incorporated herein by reference.

Item 13. Certain Relationships and Related Transactions, and Director Independence

The information required by this Item will be included in the Company's 2023 Proxy Statement to be filed with the SEC and is incorporated herein by reference.

Item 14. Principal Accountant Fees and Services

The information required by this Item will be included in the Company's 2023 Proxy Statement to be filed with the SEC and is incorporated herein by reference.

PART IV

Item 15. Exhibit and Financial Statement Schedules

(a) Documents filed as part of this report

(1) Financial Statements

See "—Index to Consolidated Financial Statements" in Item 8 of this Annual Report on Form 10-K.

(2) Financial Statement Schedules

All financial statement schedules have been omitted since the required information is not applicable or is not present in amounts sufficient to require submission of the schedule, or because the information required is included on the consolidated financial statements and notes thereto.

(3) Exhibits

See exhibits listed under Part (b) below.

(b) Index of Exhibits

	Exhibit	
	No.	Description
	<u>2.1</u>	Agreement and Plan of Merger by and among Spectrum Tracer Services, LLC, NCS Multistage Holdings, Inc., Pioneer Investment, Inc., Spartan Merger Sub, LLC and STSR LLC, dated as of August 30,
		2017 (incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K filed on August 30, 2017).
	3.1	Second Amended and Restated Certificate of Incorporation of NCS Multistage Holdings, Inc. (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K (File No. 001-38071).
		filed on May 3, 2017).
	3.2	Certificate of Amendment to the Second Amended and Restated Certificate of Incorporation of NCS Multistage Holdings, Inc (incorporated by reference to Exhibit 3.1 to the Company's Current Report on
		Form 8-K (File No. 001-38071) filed on November 30, 2020).
	3.3	Amended and Restated Bylaws of NCS Multistage Holdings, Inc. (incorporated by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K (File No. 001-38071) filed on May 3, 2017).
	4.1	Description of Securities (incorporated by reference to Exhibit 4.1 to the Company's Annual Report on Form 10-K (File No. 001-38071) filed on March 8, 2021).
	3.3 4.1 4.2 10.1	Registration Rights Agreement (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K (File No. 001-38071) filed on May 3, 2017).
	10.1	Credit Agreement, dated as of May 3, 2022, by and among NCS Multistage Holdings, Inc., Pioneer Investment, Inc., NCS Multistage, LLC, NCS Multistage Inc., and the other loan parties thereto and
		JPMorgan Chase Bank, N.A. and the lenders party thereto (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on May 6, 2022).
	10.2	Second Amended and Restated Credit Agreement, dated as of May 1, 2019, by and among NCS Multistage Holdings, Inc., Pioneer Intermediate, Inc., Pioneer Investment, Inc., NCS Multistage Inc., Wells
		Fargo Bank, National Association, Wells Fargo Bank, National Association, Canadian Branch, and the lenders party thereto (incorporated by reference to Exhibit 10.1 to the Company's Current Report on
		Form 8-K filed on May 6, 2019).
	10.3	Amendment No. 1 to Second Amended and Restated Credit Agreement, dated as of August 6, 2020, by and among NCS Multistage Holdings, Inc., Pioneer Intermediate, Inc., Pioneer Investment, Inc.,
		NCS Multistage Inc., Wells Fargo Bank, National Association, Wells Fargo Bank, National Association, Canadian Branch, and the lenders party thereto (incorporated by reference to Exhibit 10.1 to the
		Company's Current Report on Form 8-K/A filed on August 11, 2020).
†	10.4	NCS Multistage Holdings, Inc. 2017 Equity Incentive Plan ("2017 Equity Incentive Plan") (incorporated by reference to Exhibit 4.3 to the Company's Registration Statement on Form S-8 (File No. 333-
		217516) filed on April 27, 2017).
†	10.5	NCS Multistage Holdings. Inc. Amended and Restated 2017 Equity Incentive Plan (incorporated by reference to Annex A to the Company's Proxy Statement (File No. 001-38071) filed on April 21, 2020).
†	10.6	First Amendment to NCS Multistage Holdings, Inc. Amended and Restated 2017 Equity Incentive Plan (incorporated by reference to Annex B to the Company's Information Statement (File No. 001-
		38071) filed on November 10, 2020).
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†	<u>10.7</u>	2012 Equity Incentive Plan of NCS Multistage Holdings, Inc. (formerly known as Pioneer Super Holdings, Inc.) (incorporated by reference to Exhibit 4.4 to the Company's Registration Statement on Form S-8 (File No. 333-217516) filed on April 27, 2017).
†	<u>10.8</u>	NCS Multistage Holdings. Inc. Employee Stock Purchase Plan for U.S. Employees (incorporated by reference to Exhibit 4.1 to the Company's Registration Statement on Form S-8 (File No. 333-220165) filed on August 25, 2017).
†	<u>10.9</u>	First Amendment to NCS Multistage Holdings. Inc. Employee Stock Purchase Plan for U.S. Employees (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on November 19, 2018).
†	<u>10.10</u>	Second Amendment to NCS Multistage Holdings, Inc. Employee Stock Purchase Plan for U.S. Employees (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q (File No. 001-38071) filed on August 6, 2019).
†	<u>10.11</u>	NCS Multistage Holdings. Inc. Employee Stock Purchase Plan for Non-U.S. Employees (incorporated by reference to Exhibit 4.2 to the Company's Registration Statement on Form S-8 (File No. 333-220165) filed on August 25, 2017).
†	<u>10.12</u>	First Amendment to NCS Multistage Holdings, Inc. Employee Stock Purchase Plan for Non-U.S. Employees (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on November 19, 2018).
†	10.13	Second Amendment to NCS Multistage Holdings, Inc. Employee Stock Purchase Plan for Non-U.S. Employees (incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-O (File No. 001-38071) filed on August 6, 2019).
†	<u>10.14</u>	Form of Restricted Stock Unit Award Agreement under the 2017 Equity Incentive Plan for directors (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on March 4, 2019).
†	<u>10.15</u>	Form of Restricted Stock Unit Award Agreement under the 2017 Equity Incentive Plan for executives (incorporated by reference to Exhibit 10.9 to the Company's Annual Report on Form 10-K (File No. 001-38071) filed on March 9, 2018).
†	<u>10.16</u>	Form of Performance Stock Unit Award Agreement under the 2017 Equity Incentive Plan for executives (incorporated by reference to Exhibit 10.10 to the Company's Annual Report on Form 10-K (File No. 001-38071) filed on March 9, 2018).
†	<u>10.17</u>	Form of Stock Option Award Agreement under the 2017 Equity Incentive Plan for executives (incorporated by reference to Exhibit 10.11 to the Company's Annual Report on Form 10-K (File No. 001-38071) filed on March 9, 2018).
†	<u>10.18</u>	Form of Equivalent Stock Unit Award Agreement under the 2017 Equity Incentive Plan for executives (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on March 4, 2019).
†	<u>10.19</u>	Form of Restricted Stock Unit Award Agreement under the 2017 Equity Incentive Plan for non-executives (incorporated by reference to Exhibit 10.7 to the Company's Quarterly Report on Form 10-Q (File No. 001-38071) filed on August 9, 2017).
†	10.20	Form of Stock Option Award Agreement under the 2017 Equity Incentive Plan for non-executives (incorporated by reference to Exhibit 10.14 to the Company's Registration Statement on Form S-1 (File No. 333-216580) filed on April 17, 2017).
†	10.21	Form of Equivalent Stock Unit Award Agreement under the 2017 Equity Incentive Plan for non-executives (incorporated by reference to Exhibit 10.17 to the Company's Annual Report on Form 10-K (File No. 001-38071) filed on March 8, 2019).
†	10.22	Amended and Restated Employment Agreement between NCS Multistage Holdings, Inc. and Robert Nipper, dated as of August 3, 2017 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on August 9, 2017).
†	10.23	Employment Agreement between NCS Multistage Holdings, Inc. and Michael Morrison, dated as of October 6, 2022 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on October 13, 2022).
†	10.24	Amended and Restated Employment Agreement between NCS Multistage Holdings. Inc. and Ryan Hummer, dated as of July 27, 2022 (incorporated by reference to Exhibit 10.1 to the Company's Current. Report on Form 8-K filed on August 1, 2022).
†	10.25	Amended and Restated Employment Agreement between NCS Multistage Holdings, Inc. and Tim Willems, dated as of August 3, 2017 (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on August 9, 2017).
†	<u>10.26</u>	Employment Agreement between NCS Multistage Holdings, Inc. and James King, dated as of August 10, 2017 (incorporated by reference to Exhibit 10.29 to the Company's Annual Report on Form 10-K (File No. 001-38071) filed on March 8, 2021).
†	10.27	Employment Agreement between NCS Multistage Holdings, Inc. and Ori Lev. dated as of October 27, 2020 (incorporated by reference to Exhibit 10.30 to the Company's Annual Report on Form 10-K. (File No. 001-38071) filed on March 8, 2021).

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†	10.28	Form of Director Indemnification Agreement (incorporated by reference to Exhibit 10.6 to the Company's Registration Statement on Form S-1 (File No. 333-216580) filed on April 17, 2017).
	10.29	Subscription Agreement, dated as of December 22, 2015, by and between NCS Multistage Holdings, Inc. (formerly known as Pioneer Super Holdings, Inc.) and Advent-NCS Acquisition Limited
		Form of Director Indemnification Agreement (incorporated by reference to Exhibit 10.6 to the Company's Registration Statement on Form S-1 (File No. 333-216580) filed on April 17, 2017), Subscription Agreement, dated as of December 22, 2015, by and between NCS Multistage Holdings. Inc. (formerly known as Pioneer Super Holdings. Inc.) and Advent-NCS Acquisition Limited Partnership (incorporated by reference to Exhibit 10.2 to the Company's Registration Statement on Form S-1 (File No. 333-216580) filed on March 9, 2017).
*	21.1	List of subsidiaries of the Company.
*	23.1	Consent of Grant Thornton LLP.
*	31.1	Certification of Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
*	<u>31.2</u>	Certification of Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
**	32.1	Certification of Chief Executive Officer Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
**	<u>32.2</u>	Certification of Chief Financial Officer Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
***	101.INS	XBRL Instance Document
***	101.SCH	XBRL Taxonomy Extension Schema
***	101.CAL	XBRL Taxonomy Extension Calculation Linkbase
***	101.DEF	XBRL Taxonomy Extension Definition Linkbase
***	101.LAB	XBRL Taxonomy Extension Label Linkbase
***	101.PRE	XBRL Taxonomy Extension Presentation Linkbase
***	104	Cover Page Interactive Data File (formatted in iXBRL and contained in Exhibit 101)

Management contracts or compensatory plans or arrangements. Filed herewith. Furnished herewith. Submitted electronically with this Report. † * **

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, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Date: March 7, 2023 NCS Multistage Holdings, Inc.

/s/ Michael Morrison Michael Morrison Chief Financial Officer and Treasurer

Pursuant to the requirements of the Securities and Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities indicated on March 7, 2023.

Signature /s/ Ryan Hummer Ryan Hummer	Title Chief Executive Officer and Director (Principal Executive Officer)
/s/ Michael Morrison Michael Morrison	Chief Financial Officer and Treasurer (Principal Financial Officer)
/s/ Lori Cole Lori Cole	Vice President, Finance (Principal Accounting Officer)
/s/ Michael McShane Michael McShane	Chairman
/s/ John Deane John Deane	Director
/s/ Matthew Fitzgerald Matthew Fitzgerald	Director
/s/ Gurinder Grewal Gurinder Grewal	Director
/s/ David McKenna David McKenna	Director
/s/ Valerie Mitchell Valerie Mitchell	Director
/s/ Robert Nipper Robert Nipper	Director
/s/ W. Matt Ralls W. Matt Ralls	Director
/s/ Marty Stromquist Marty Stromquist	Director

SUBSIDIARIES OF NCS MULTISTAGE HOLDINGS, INC.

<u>Subsidiary</u>	State or Other Jurisdiction of Formation
Pioneer Intermediate, Inc.	Delaware
Pioneer Investment, Inc.	Delaware
Pioneer NCS Energy Holdco, LLC	Texas
NCS Multistage, LLC	Texas
STS Logistics and Analytics, LLC	Oklahoma
STS Holdings, Inc.	Nevada
STS Tracer Services, Ltd.	Canada
NCS Multistage Norge	Norway
Repeat Precision, LLC	Texas
RJ Machine Mexico, S. de R.L. de C.V.	Mexico
NCS International, LLC	Texas
NCS Multistage Argentina S.R.L.	Argentina
NCS International 2, LLC	Texas
NCS Multistage Inc.	Canada

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We have issued our report dated March 7, 2023, with respect to the consolidated financial statements included in the Annual Report of NCS Multistage Holdings, Inc. on Form 10-K for the year ended December 31, 2022. We consent to the incorporation by reference of said reports in the Registration Statements of NCS Multistage Holdings, Inc. on Forms S-3 (File No. 333-257795 and File No. 333-224725) and Forms S-8 (File No. 333-251270, File No. 333-259307, File No. 333-2210165 and File No. 333-217516).

/s/ GRANT THORNTON LLP

Houston, Texas March 7, 2023

CERTIFICATION OF CHIEF EXECUTIVE OFFICER PURSUANT TO RULE 13A-14(A) AND RULE 15D-14(A) OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED

I, Ryan Hummer, certify that:

- 1. I have reviewed this Annual Report on Form 10-K (this "report") of NCS Multistage Holdings, Inc. ("the registrant");
- 2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
- 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 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)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
- 5. The registrant's other certifying officer 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: March 7, 2023

/s/ Ryan Hummer Ryan Hummer Chief Executive Officer

CERTIFICATION OF CHIEF FINANCIAL OFFICER PURSUANT TO RULE 13A-14(A) AND RULE 15D-14(A) OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED

I. Michael Morrison, certify that:

- 1. I have reviewed this Annual Report on Form 10-K (this "report") of NCS Multistage Holdings, Inc. ("the registrant");
- 2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
- 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 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)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
- 5. The registrant's other certifying officer 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: March 7 2023

/s/ Michael Morrison

Michael Morrison

Chief Financial Officer and Treasurer

CERTIFICATION OF CHIEF EXECUTIVE OFFICER UNDER SECTION 906 OF THE SARBANES OXLEY ACT OF 2002, 18 U.S.C. § 1350

In connection with the Annual Report of NCS Multistage Holdings, Inc. (the "Company") on Form 10-K for the fiscal year ended December 31, 2022, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Ryan Hummer, Chief Executive Officer and Director of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes Oxley Act of 2002, that, to my knowledge:

- $1. \quad \text{The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and the securities of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and the securities of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and the securities of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and the securities Exchange Act of 1934, as amended; and the securities Exchange Act of 1934, as amended; and the securities Exchange Act of 1934, as amended; and the securities Exchange Act of 1934, as amended; and the securities Exchange Act of 1934, as amended; and the securities Exchange Act of 1934, as amended; and the securities Exchange Act of 1934, as amended; and the securities Exchange Act of 1934, as amended; and the securities Exchange Act of 1934, as amended; and the securities Exchange Act of 1934, as a securities Exchange Act of 1934,$
- 2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

March 7, 2023	/s/ Ryan Hummer	
	Ryan Hummer	
	Chief Executive Officer	

CERTIFICATION OF CHIEF FINANCIAL OFFICER UNDER SECTION 906 OF THE SARBANES OXLEY ACT OF 2002, 18 U.S.C. § 1350

In connection with the Annual Report of NCS Multistage Holdings, Inc. (the "Company") on Form 10-K for the fiscal year ended December 31, 2022, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Michael Morrison, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes Oxley Act of 2002, that, to my knowledge:

- 1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
- 2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

March 7, 2023 /s/ Michael Morrison
Michael Morrison

Chief Financial Officer and Treasurer