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, 2021

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 For the transition period from _____ to Commission file number: 001-38071 NCS Multistage Holdings, Inc. (Exact name of registrant as specified in its charter) 46-1527455 Delaware (State or other jurisdiction of (IRS Employe Identification number) incorporation or organization) 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 Securities registered pursuant to Section 12(b) of the Act: Title of each class Trading Symbol(s) Name of each exchange on which registered Common Stock, \$0.01 par value NCSM Nasdag 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 D 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. 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 ter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes \square No \square chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). 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," "sccelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act. Large accelerated filer Accelerated filer $\overline{\mathbf{Q}}$ Ø Non-accelerated filer Smaller reporting company Emerging growth company If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C.7262(b)) by the registered public accounting firm that prepared or issued its audit report. \Box 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, 2021, 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 4, 2022, there were 2,405,746 shares of common stock outstanding.

Portions of the definitive proxy statement for the registrant's 2022 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, 2021.

TABLE OF CONTENTS

		Page
	<u>PART I</u>	
Item 1.	<u>Business</u>	5
Item 1A.	Risk Factors	12
Item 1B.	<u>Unresolved Staff Comments</u>	35
Item 2.	<u>Properties</u>	35
Item 3.	<u>Legal Proceedings</u>	35
Item 4.	Mine Safety Disclosures	35
	PART II	
Item 5.	Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities	36
Item 6.	[Reserved]	36
Item 7.	Management's Discussion and Analysis of Financial Condition and Results of Operations	37
Item 7A.	Quantitative and Qualitative Disclosures About Market Risk	51
Item 8.	Financial Statements and Supplementary Data	52
Item 9.	Changes in and Disagreements With Accountants on Accounting and Financial Disclosure	83
Item 9A.	Controls and Procedures	83
Item 9B.	Other Information	83
Item 9C.	Disclosure Regarding Foreign Jurisdictions that Prevent Inspections	83
	PART III	
Item 10.	Directors, Executive Officers and Corporate Governance	84
Item 11.	Executive Compensation	84
Item 12.	Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	84
Item 13.	Certain Relationships and Related Transactions, and Director Independence	84
Item 14.	Principal Accounting Fees and Services	84
	PART IV	
Item 15.	Exhibits, Financial Statement Schedules	85
Item 16.	Form 10-K Summary	87
<u>Signatures</u>		88

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, including the effects of the Coronavirus disease 2019 ("COVID-19") pandemic thereon, 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:

the risks and uncertainties relating to public health crises, including the COVID-19 pandemic and its continuing impact on market condition and our business, financial condition, results of operations, cash flows and stock price;
declines in the level of oil and natural gas exploration and production ("E&P") activity in Canada and the United States;
oil and natural gas price fluctuations;
significant competition for our products and services that results in pricing pressures, reduced sales, or reduced market share;
inability to successfully implement our strategy of increasing sales of products and services into the United States;
loss of significant customers;
our inability to successfully develop and implement new technologies, products and services;
our inability to protect and maintain critical intellectual property assets;
losses and liabilities from uninsured or underinsured business activities;
the financial health of our customers including their ability to pay for products or services provided;
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;
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 additional 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 Coronavirus Aid, Relief, and Economic Security Act (the "CARES Act") and the U.S. Tax Cuts and Jobs Act of 2017 (the "2017 Tax Act");
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 and goodwill;

П	our failure to	hetablich and	maintain	offective internal	control (over financial reporting	

- □ risks and uncertainties relating to cost reduction efforts or savings we may realize from such cost reduction efforts;
- the reduction in our Senior Secured Credit 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, Accelus, PurpleSeal Express, Repeat Precision, NCS Multistage 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 disclosure 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 completions and field development strategies. We provide our products and services primarily to E&P companies for use in onshore wells, predominantly wells that have been drilled with horizontal laterals in unconventional 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. 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 225 customers in 2021, 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 services associated with our downhole frac isolation assembly, where our personnel supervise the use of the 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 markets composite frac plugs 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 stage and cluster level efficiency of completion designs.

We sell products for well construction, including our casing buoyancy system, 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, 2021, 2020 and 2019, was \$118.5 million, \$107.0 million and \$205.5 million, respectively. Our net loss attributable to NCS Multistage Holdings, Inc. for the years ended December 31, 2021, 2020 and 2019, was \$(4.7) million, \$(57.6) million and \$(32.8) million, respectively. Our total assets for the years ended 2021, 2020 and 2019, were \$142.3 million, \$138.7 million and \$202.6 million, respectively. For additional financial information by geographic area, see "Note 18. 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, continue to be an innovator of technology and create value for our stockholders. We intend to achieve these objectives by (i) pursuing disciplined organic growth through increasing market 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 ("Spectrum") in 2017. In 2021, 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. In addition, this diversification of our revenue base has, in part, contributed to a reduction in the percentage of revenue derived from the Canadian market from 71% in 2016 to 62% in 2021.

Products and Services

	le highly engineered products and support services that facilitate the optimization of oil and natural gas well completions and field ategies. Our key products and services include:
stim targe	cturing Systems. Our fracturing systems products and services encompass our technology developed to enable efficient pinpoint sulation and re-stimulation strategies. Pinpoint stimulation is the process of individually stimulating each entry point into a formation eted by an oil or natural gas well, a process that we believe provides benefits compared to traditional completion techniques. Our pinpoint sulation solutions and refined field processes are designed to enable efficient, controlled, verifiable, and repeatable completions.
whice	fracturing systems products and services are comprised of our casing-installed sliding sleeves and our downhole frac isolation assemblies, ch are deployed using coiled tubing. Our services include advising customers on optimizing completion designs and operating the mhole frac isolation assemblies.
	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 both vertical and horizontal wells. There is no practical limitation on the number of stages that can be installed in a well, and all sleeves have an inner diameter that is the same as the casing in the wellbore. We produce two primary models of sliding sleeves: models which can be opened only once, and models which can be opened and closed multiple times throughout the life of a well. The closable sleeves provide our customers the benefit of additional completion options and the ability to better optimize a well's production phase. During completion operations, the downhole frac isolation assembly is placed 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. In our closable sleeves, the inner barrel can later be shifted up to re-isolate the frac ports until the well is ready to be produced. Further, these sleeves can be re-opened or re-closed at any time during production 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.
	O Innovus. The Innovus line of sliding sleeves is the latest generation of our fracturing sleeves designed primarily for the onshore market.
	 Ratek. The Ratek line of sliding sleeves has recently been commercialized for more difficult environments, including offshore applications, that may require V0 and V3 ISO ratings.
	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, which is attached to a third-party coiled tubing reel, is primarily used to locate our sliding sleeves and to shift our sliding sleeves open or closed and, in combination with coiled tubing, provides real time-downhole pressure measurements. We typically do not sell the assemblies and utilize them in our service to our customers. Our personnel operate the assemblies during completion operations in coordination with other on-site service providers.
	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. The high-velocity slurry cuts through the casing and cement and into the formation. The tunnels created through this process serve as access points for stimulation. Stimulation treatments are pumped down the annulus between the coiled tubing and the casing. Although the sand jet perforating process requires more time per stage than using sliding sleeves, it provides a practical option for pinpoint stimulation in wells that are already cased, such as for drilled, but uncompleted ("DUC") wells.
	Accelus system. Our Accelus sliding sleeves can be cemented in place or utilized with our Accelus open-hole packers. Each sleeve is activated by pumping a ball from the surface that lands on a seat in the corresponding sleeve, providing pinpoint stimulation. In some instances, the Accelus sleeves will be utilized together with our Innovus sleeves in a hybrid application to increase the number of stages that can be run in extended-reach applications, with the Accelus sleeves installed at the toe of such wells.
□ Enh	ganced Recovery. Our Enhanced Recovery product line extends from our experience with fracturing systems, featuring a series of injection

		very operations such as waterflood or gas injection.
		<i>Innovus Convertible.</i> This valve assembly 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 injection ports. Water can then be injected into the reservoir at a predetermined rate suitable for enhanced recovery operations, extending the useful life of the original completion.
		<i>Terrus System.</i> This valve system includes injection control devices that can be assembled into various configurations with isolation devices to create a customized injection string for installation in existing wells.
	frac j singl casin	eat Precision. We own a 50% interest in Repeat Precision. Repeat Precision markets its high-performance Purple Seal line of composite plugs and bridge plugs, RP single-use disposable setting tools, Purple Seal Express systems that combine a Purple Seal Frac Plug with a e-use disposable setting tool, and related products. Repeat Precision began selling perforating guns, devices utilized to perforate a well's ag, in late 2021. It sells these products directly to E&P customers as well as to other oilfield services companies that act as a libutors. Repeat Precision also provides high-quality machining services for certain NCS products.
	perfo wate	er Diagnostics. We provide chemical and radioactive tracer diagnostics technologies used by E&P companies to assess completion ormance, evaluate well production, and optimize field development strategies. Our fracture fluid identifier tracers ("FFIs"), particulate r-soluble tracers ("WSTs"), particulate oil-soluble tracers ("OSTs") and natural gas tracers enable efficient, cost-effective downhole nostics, providing E&P companies with critical data to better optimize reservoir development and production.
		Construction. Our well construction products are designed to allow our customers to safely and efficiently install casing and production s, facilitate cementing operations and initiate a flow path into the formation at the commencement of stimulation operations. Our well truction products include:
		AirLock casing buoyancy system. Our AirLock casing buoyancy system facilitates landing casing strings in horizontal wells at the desired depth, while minimizing running time and 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 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 the ceramic or glass seal at a predetermined pressure, leaving an unrestricted casing bore.
		Vecturon and Vectraset liner hanger systems. Our proprietary liner hanger systems are specifically designed to perform in complex horizontal wells and are fully compatible with our fracturing systems products. The liner hanger is used to distribute the loads and weight of the liner to the supporting casing and can be set in the absence of a wiper plug bump.
		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 ("IPO") 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 completions and field development strategies, primarily for use in onshore wells drilled with horizontal laterals in unconventional 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 fracturing systems, wellbore construction products, tracers and other equipment and services involve proprietary technologies, some of which are protected by patents.

We hold 50 U.S. utility patents and 52 related international utility patents. These relate to various products and services from each of our product lines, such as our casing buoyancy system, 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 2039. Our international utility patents expire between 2025 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 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, 2021, 2020 and 2019, we had over 225, 200 and 325 customers, respectively. Our five largest customers accounted for approximately 30%, 31% and 22% of our revenue for the years ended December 31, 2021, 2020 and 2019, respectively. We had one single customer who accounted for 10% of our revenue during the year ended December 31, 2020. No other customer accounted for more than 10% of our revenue during 2020. No customer represented more than 10% of our revenue for the years ended December 31, 2021 and 2019. 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 direct 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 system 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 lower than activity in the first quarter. Our business can also 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 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 component parts and raw materials 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 raw materials 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 raw materials 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. To decrease fixed costs, in connection with lower industry activity levels, we have reduced our internal manufacturing capacity and 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.

While we experienced modest disruptions to our supply chain as a result of the COVID-19 pandemic, including delays in importation of certain chemical products from China and temporary work-from-home orders that reduced the capacity at the Repeat Precision machine shop operations in Mexico, such disruptions were temporary in nature, the impacted products are available through alternative sources of supply, and we maintained sufficient inventory on hand to meet customer demand. We also experienced delays in access to certain materials and products utilized in our research and development activities, which has led, and may continue to lead, to delays in new product introductions. The continuing impacts of the COVID-19 pandemic are contributing to ongoing supply chain disruptions and cost inflation, including labor cost inflation, the effects of which have continued into 2022. To address this, we have also initiated projects to qualify additional vendors or materials in instances where availability is limited or 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, and composite frac plugs.

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, Schlumberger Limited, 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 knowhow 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 promulgated 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. Most recently, in November 2021, EPA issued a proposed rule 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. While the scope and future implementation of any final rule regarding such proposed NSPS and emissions guidelines, 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 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 and, instead, are regulated 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 reporting concerning operations. 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 activities. Hydraulic fracturing is typically regulated by state oil and natural gas commissions and similar agencies. Some states have adopted, and other states are considering adopting, regulations that could impose new or more stringent permitting, disclosure or well construction requirements on hydraulic fracturing operations. States could also elect to prohibit high volume hydraulic fracturing altogether, following the approach taken by the State of New York in 2015. 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. On January 27, 2021, the current administration issued an executive order directing the Secretary of the Interior to pause on entering into new oil and natural gas leases on public lands or offshore waters to the extent possible. This moratorium has been stayed by the U.S. District Court for the Western District of Louisiana, which means that leasing of Federal public lands can continue until the court rules on the substance of the case or until the Court or an appeals court issues additional orders. 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. We do not currently expect that the recent executive order regarding leases on public land or the cancellation of the Keyston

environmental impacts of hydraulic fracturing activities. State and federal regulatory agencies have recently focused on a possible connection between the operation of injection wells used for oil and natural gas waste disposal and seismic activity. Similar concerns have been raised that hydraulic fracturing may also contribute to seismic activity. 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 current administration's proposed moratorium on entering into new oil and natural gas leases on public lands and efforts to decrease or eliminate fossil fuel subsidies as well as 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, 2021, we had 224 employees of which 201 are full-time employees. As of such date, 129 of our employees were based in the United States, 88 were based in Canada and seven were based outside of North America. Our international operations, with the exception of our Argentinean operations, are currently serviced by employees operating out of the United States and Canada. In addition, our consolidated joint venture, Repeat Precision, has 199 employees, 24 of which are based in the United States and 175 of which are based in Mexico. We are not a party to any collective bargaining agreements, 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, financial condition, results of operations, cash flows and stock price have been negatively impacted and may in the future be adversely affected by the COVID-19 pandemic.
- 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 and the United States.
- 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.
- ☐ 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 United States.
- A single customer constituted 7%, 10% and 8% of our revenue for the years ended December 31, 2021, 2020 and 2019, 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.
- Our success depends on our ability to develop and implement new technologies, products and services.
- 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.
Our products 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 timel 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.
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 it 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.
Changes in trade policies, including the imposition of tariffs, could negatively impact 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.
We could be subject to additional income tax liabilities.

	Loss of our information and	computer systems could ad	versely affect our business.
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- Use 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 and 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 Indebtedness

- 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 Senior Secured Credit Facility 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 an "emerging growth company" and "smaller reporting company" and may elect to comply with reduced reporting requirements applicable to emerging growth companies, which could make our common stock less attractive to investors.
- Use 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, financial condition, results of operations, cash flows and stock price have been negatively impacted and may in the future be adversely affected by the COVID-19 pandemic.

Public health crises, pandemics and epidemics, such as the COVID-19 pandemic, have adversely impacted and are expected to continue to adversely impact our operations, the operations of our customers and the global economy, including the worldwide demand for oil and natural gas and the level of demand for our services. Fear of such events has also altered the level of capital spending by oil and gas companies for E&P activities and adversely affected the economies and financial markets of many countries, or globally, resulting in an economic downturn that has affected demand for our products and services. Actions taken to prevent the spread of COVID-19 by governmental authorities around the world, including imposing mandatory closures of all non-essential business facilities, seeking voluntary closures of such facilities and imposing restrictions on, or advisories with respect to, travel, business operations and public gatherings or interactions, have significantly reduced global economic activity, thereby resulting in lower demand for oil and natural gas.

Governmental authorities have also implemented multi-step policies with the goal of re-opening various sectors of the economy. However, certain jurisdictions began reopening only to return to restrictions in the face of increases in new COVID-19 cases, while other jurisdictions are continuing to reopen or have completed the reopening process amid increases in COVID-19 cases. Despite the increased availability of vaccines in certain jurisdictions, the COVID-19 pandemic may continue unabated or worsen due to the emergence of more infectious strains of the virus, vaccine hesitancy or increased business and social activities, which may cause governmental authorities to reconsider restrictions on business and social activities. In the event governmental authorities increase restrictions, the reopening of the economy may be curtailed.

In early March 2020, the increase in crude oil supply resulting from production escalations from members of OPEC and certain other countries, including Russia (informally known as "OPEC+") combined with a decrease in crude oil demand stemming from the

global response and uncertainties surrounding the COVID-19 pandemic resulted in a sharp decline in crude oil prices. Consequently, there was a significant decrease in customer 2020 capital budgets and a corresponding dramatic decline in the demand for products and services in our industry. Although OPEC+ agreed in April 2020 to cut oil production, OPEC+ has been gradually reducing such cuts and in July 2021, agreed to further reduce such cuts on a monthly basis with a goal of phasing out all production cuts in September 2022. There is no assurance that the most recent OPEC+ agreement will be observed by its parties and OPEC+ may change its agreement depending upon market conditions. Although crude oil prices have recovered since March 2020, oil and natural gas prices are expected to continue to be volatile as a result of near-term production instability, the ongoing COVID-19 pandemic, changes in oil and natural gas inventories, industry demand, global and national economic performance, and the actions of OPEC+.

We are considered a critical infrastructure industry, as defined by the U.S. Department of Homeland Security. Although we have continued to operate our facilities to date consistent with federal guidelines and state and local orders, the COVID-19 pandemic and any preventive or protective actions taken by governmental authorities may have a material adverse effect on our operations, supply chain, customers and transportation networks, including business shutdowns or disruptions. To date, we have experienced delays in importation of certain chemical products from China, and temporary work-from-home orders have reduced operating capacity at the Repeat Precision machine shop operations in Mexico. We also experienced delays in access to certain materials and products utilized in our research and development activities, which has led, and may continue to lead, to delays in new product introductions. The continuing impacts of the COVID-19 pandemic are contributing to ongoing supply chain disruptions and cost inflation, including labor cost inflation, the effects of which have continued into 2022. Work-from-home orders and other restrictions have also led to delays in planned work in Argentina and China. The COVID-19 pandemic and other factors have adversely affected, and may continue to further adversely effect, our supply chain, including creating shipping and logistics challenges and placing significant limits on component supplies. These effects on our supply chain have resulted in delayed product availability, resulted in additional costs, and may otherwise adversely impact our business and results of operations. In addition, the travel restrictions in certain countries where we operate, including the closure of their borders to travel into the country, have resulted in difficulty to effectively staff or rotate personnel at, and thereby operate, certain of our projects and could lead to an inability to service awarded businesses.

During 2020, we implemented various workforce reductions resulting in the termination of approximately 190 employees, temporary furloughs for certain employees and lower compensation levels for executives and employees not participating in furloughs in response to the decrease in crude oil pricing, customer capital spending plans and activity as a result of the decline in market conditions primarily related to the COVID-19 pandemic and reduced demand for oil. The reductions result in the loss of longer-term employees, institutional knowledge and expertise and the reallocation and combination of certain roles and responsibilities across the organization. These reductions, or others which may be caused by, but not limited to, the temporary inability of our workforce to work due to illness, quarantine, or government action, may negatively impact our operations.

The increase in certain of our employees working remotely has amplified certain information technology risks to our business and increased the demand on our information technology resources and systems, including increased phishing and other cyber security attacks as cybercriminals attempt to exploit uncertainty surrounding the COVID-19 pandemic and an increase in the number of points of potential attack, including laptops and mobile devices, to be secured. Any failure to effectively manage these risks, including to identify and appropriately respond to any cyberattacks, may adversely affect our business.

The extent to which the COVID-19 pandemic may continue to adversely impact our business depends on future developments, which are highly uncertain and unpredictable, depending upon the severity and duration of the pandemic and the effectiveness of actions taken globally to contain or mitigate its effects. These events have had, and could continue to have, an adverse impact on numerous aspects of our business, financial condition and results of operations, including, but not limited to, our growth, costs, loss of workers, supply chain disruptions, logistics constraints, customer demand for our services and industry demand generally, capital spending by oil and gas companies, our liquidity, the price of our securities and trading markets with respect thereto, our ability to access capital markets, certain of our customers experiencing bankruptcy or otherwise becoming unable to pay vendors, and the global economy and financial markets generally. Even after the COVID-19 pandemic has subsided, we may experience materially adverse impacts to our business due to any resulting economic recession or depression. To the extent the COVID-19 pandemic adversely affects our business, financial results and results of operations, it may also have the effect of heightening many of the other risks described below.

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 and the United States.

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 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. 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, drilling, completion and other production activities have not returned to 2019 levels in the United States and most markets outside of North America and oil and natural gas prices remain volatile, and prolonged reductions in oil and natural gas prices have had and may continue to have an adverse effect on our business, financial condition and results of operations. 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. In addition, 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 were to further 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;
	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+ to agree to and maintain production controls to support oil prices;
	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;
	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;
	technical 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;
	the ability of oil and natural gas producers to raise equity capital and debt financing;
	merger and divestiture activity among oil and natural gas producers; and
П	overall domestic and global economic conditions.

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. For example, during the second half of 2018, our Canadian customers experienced a widening of oil price differentials due to pipeline constraints which continued through the end of 2019, reducing their cash flows. 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 further impairment charges, a reduction in our borrowing capacity under our Senior Secured Credit 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 levels of activity that are significantly affected by the levels and volatility of oil and natural gas prices. Prices for oil and natural gas 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 \$85.64 per Bbl in October 2021. 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. For example, prolonged low commodity prices experienced by the oil and natural gas industry during 2015 and 2016, combined with adverse changes in the capital and credit markets, caused many E&P companies to reduce their capital budgets and drilling activity. This resulted in a significant decline in demand for oilfield services and adversely impacted the prices oilfield services companies could charge for their services. E&P capital budgets were reduced significantly in 2020 as well in response to the COVID-19 pandemic with many of the same effects, as discussed above. 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 and greater name recognition than we do. Several of our competitors provide a broader array of services and have a stronger presence in more geographic markets. In addition, we compete 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 in less 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, as occurred in the recent lower commodity price environment, leading to excess capacity and additional pricing pressure. Further, as a result of the significant reduced demand for oil and natural gas services due to the COVID-19 pandemic, certain of our competitors may engage in bankruptcy proceedings, debt refinancing transactions, management changes, or other strategic initiatives in an attempt to reduce operating costs to maintain a position in the market. In addition, mergers and acquisitions among oil and natural gas companies or other events that have the effect of reducing the number of available customers may make the environment more competitive. 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.

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 United States.

A key component of our growth strategy is to increase our market share in the United States. We sell a variety of products and services in the United States, including our fracturing systems, enhanced recovery systems, well construction, tracer diagnostic services and composite frac plugs and related products through Repeat Precision. In many of the product and service categories, we have been selling in the United States for a shorter period of time than we have been selling in Canada 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.

Our primary offering is our fracturing systems products and services. Currently, most E&P companies in the United States rely on traditional well completion techniques and do not utilize pinpoint stimulation. 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. If we are unable to convince potential customers in the United States of the benefits of pinpoint stimulation, our strategy to increase the level of sales of our products and services in the United States would be negatively impacted, harming our growth prospects. Additionally, the sales of our products and services depend in large part on the perception of pinpoint stimulation in the oil and natural gas industry. 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, which could impact our ability to grow revenues in the United States and harm our growth prospects. In other product and service categories, we often compete in markets with many other competitors which may make it difficult to increase market share in the United States, as further described in the risk factor below.

A single customer constituted 7%, 10% and 8% of our revenue for the years ended December 31, 2021, 2020 and 2019, 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 7%, 10% and 8% of our revenue for the years ended December 31, 2021, 2020 and 2019, respectively. Additionally, our five largest customers accounted for approximately 30%, 31% and 22% of our revenue for the years ended December 31, 2021, 2020 and 2019, 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.

Our success depends on our ability to develop and implement new technologies, products and services.

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 2020, we implemented several cost reduction measures, including several workforce reductions resulting in the termination of many employees. These measures resulted in the loss of longer-term employees, institutional knowledge and expertise and may negatively impact our ability to develop or implement new technologies. 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.

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 may take long periods of time to develop new technologies and we may not accurately predict the future needs of our customers or the competitive landscape. We may not achieve significant revenues from new product and service investments for a number of years, if at all, which 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. and international patents and have multiple pending patent applications for products and processes. Patent rights give the owner of a patent the right to exclude third parties from making, using, selling, and offering for sale the inventions claimed in the patents in the applicable country. Patent rights do not necessarily grant the owner of a patent the right to practice the invention claimed in a patent, but merely the right to exclude others from practicing the invention claimed in the patent. It may be possible for a third-party to design around our patents. Furthermore, patent rights have strict territorial limits. 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, and may in the future, become involved in legal proceedings from time to time to protect and enforce our intellectual property rights. In addition, third parties from time to time 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. Any legal proceeding concerning intellectual property could 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.

Our products 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.

Our products 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 formations, damage to facilities, 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 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. In addition, our insurance may not cover losses associated with pandemics such as the COVID-19 pandemic. Liabilities for which we are not insured, or whi

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 could have a material adverse effect on our business, financial condition and results of operations. 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. In 2020, lower commodity prices impacted E&P companies that carry significant debt on their balance sheets and companies that rely on liquidity from loans that are based on the value of their oil and gas reserves. There were several Chapter 11 bankruptcy filings by E&P companies in 2020 and 2021, and the credit quality of the upstream oil and natural gas sector, our customer base, has been negatively impacted by the decline in market conditions, primarily related to the COVID-19 pandemic. We recorded a provision for doubtful accounts of \$0.8 million during the year ended December 31, 2020 and a recovery of \$0.1 million during the year ended December 31, 2021. 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 operational, accounting and technology policies, processes and systems and the implementation of those policies and procedures;
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;
21

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.

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, military 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 or financial 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, 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.

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. Continued or increasing lockdown orders or a prolonged period of travel, commercial and other similar restrictions could cause additional global supply disruptions. 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 hiring, promotion, retention or replacement of any of these individuals. 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 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, caused by COVID-19, or measures taken to address COVID-19, or as a result of general macroeconomic factors, could lead to increased costs and a material impact on our operations. If we are unable to recruit or retain sufficient skilled and technical personnel, it could have 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, which totaled \$2.8 million and \$17.6 million in 2021 and 2020, respectively;
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 our borrowing base of our Senior Secured Credit Facility, as in the case with the Repeat Precision joint venture;
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.

Because approximately 62% of our revenue for the year ended December 31, 2021 was generated in Canada, we could be materially affected by 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 \$19.1 million CAD as of December 31, 2021, a 10% movement in exchange rates for CAD relative to USD would increase or decrease pre-tax income during the period of the change and increase or decrease the resulting trade accounts receivable balance by \$1.5 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. 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
П	loss of productivity.

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 promulgated regulations restricting emissions of GHGs under 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. Most recently, in November 2021, EPA issued a proposed rule 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. While the scope and future implementation of any final rule regarding such proposed NSPS and emissions guidelines, 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 proppants 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. On January 27, 2021, the current administration issued an executive order directing the Secretary of the Interior to pause on entering into new oil and natural gas leases on public lands or offshore waters to the extent possible. This moratorium has been stayed by the U.S. District Court for the Western District of Louisiana, which means that leasing of Federal public lands can continue until the court rules on the substance of the case or until the Court or an appeals court issues additional orders. 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 practices. These completed, ongoing, or proposed studies, depending on their degree of pursuit and whether any meaningful results are obtained, could spur initiatives to further regulate hydraulic fracturing. For example, in December 2016, the EPA released a final report assessing the potential impacts of hydraulic fracturing on drinking water resources. In this report, the EPA found scientific evidence that hydraulic fracturing activities can impact 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. Similar concerns have been raised that hydraulic fracturing may also contribute to 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 hydraulic fracturing, and could ultimately make it more difficult or costly to perform fracturing and increase the costs of compliance and doing business for our customers. In addition, in response to concerns regarding induced seismicity, regulators in some states have from time to time, developed and implemented plans directing certain wells where seismic incidents have occurred to restrict or suspend disposal 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. 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 distribute significant volumes of a chemical, we need to determine whether that chemical is listed 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. 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, or evolving interpretations of existing 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.

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 additional tariffs on imported products and the withdrawal from or renegotiation of certain trade agreements. In addition, these could also result in additional retaliatory actions by the United States' trade partners. Given that we procure many of the raw materials that we use to create our products directly or indirectly 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 hurt 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.

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 lower statutory rates and higher than anticipated 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. In response to the COVID-19 pandemic, we moved to a largely "remote work" model for office personnel in early 2020, and in 2021 we introduced full-time or part-time remote work as a permanent option for select employees. A significant number of our office employees work remotely. 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.

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, will be sufficient to protect our systems, information or other property. Additionally, customers 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. In the operation of our ERP system we may have technical issues that 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 and 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 related to these charges.

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 is greater than its 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 related to these charges.

We are unable to predict whether further impairments of one or more of our long-lived assets or investments may occur in the future. Such an impairment would result in additional non-cash charges 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, contractors and agents, whether based within or outside of the United States, for violations of the FCPA. We may also be held responsible for any violations by an acquired company that occur prior to an acquisition, or subsequent to the acquisition but before we are able to institute our compliance procedures. In addition, our non-U.S. competitors that are not subject to the FCPA or similar laws may be able to secure business or other preferential treatment in such countries by means that such laws prohibit with respect to us. A violation of any of these laws, even if prohibited by our policies, could have a material adverse effect on our business, financial condition or results of operations. Actual or alleged violations could damage our reputation, be expensive to defend, and impair our ability to do business.

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 processes and facilities maintain ISO or similar certifications) for our products and services, which may also include extensive testing requirements. We anticipate that such code testing requirements will become more common in our contracts. We cannot assure you that our products or facilities will be able to satisfy the specifications 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 to satisfy the specifications and testing will not adversely affect our results of operations. If 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, 2021, our total outstanding indebtedness was \$7.8 million, of which no amount is currently outstanding under our Senior Secured Credit Facility (as defined below). Under our Senior Secured Credit Facility, which is secured by substantially all of our assets, we may borrow up to the lesser of a borrowing base and \$25.0 million, with sublimits for loans in foreign currencies and loans to our Canadian subsidiary. The borrowing base, which also limits swingline advances, is determined based on 85% of eligible accounts receivable, which does not include accounts receivable at Repeat Precision, subject to change based on field audit results and the reasonable business judgment of the administrative agent under our Senior Secured Credit Facility. The Senior Secured Credit Facility authorizes, but does not require, the administrative agent to make over-advances, notwithstanding a borrowing base deficiency, up to 10% of the borrowing base (but never to exceed the lenders' aggregate commitments). Our Senior Secured Credit Facility is subject to Wells Fargo's customary LIBOR transition provisions (see below). There can be no assurance that our Senior Secured Credit Facility will be adequate in size to satisfy our liquidity needs, or that adverse energy market developments impacting our customers won't 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 LIBOR); LIBOR—the London interbank offered rate, began phasing out by the end of 2021, and is expected to be phased out completely sometime in 2023, and the effect on our debt service burden is unclear; 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 Senior Secured Credit 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 Senior Secured Credit 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 of 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 Senior Secured Credit Facility contains restrictions on our ability to incur additional indebtedness, these restrictions are subject to a number of important exceptions, and indebtedness incurred in compliance with these restrictions could be substantial. 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 Senior Secured Credit Facility may restrict our ability to pursue our business strategies.

The agreement governing our Senior Secured Credit 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 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; materially alter our business; and incur capital expenditures.

Our Senior Secured Credit Facility requires, as a condition to borrowing, that (i) if availability under such credit facility is less than 20% of our borrowing base, our fixed charge coverage ratio for the applicable 12 month period must be at least 1.0 to 1.0, and (ii) our available cash on hand does not exceed \$10.0 million. The Senior Secured Credit Facility also contains (i) 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 availability under our Senior Secured Credit is less than 20% of our borrowing base, and (ii) a minimum liquidity requirement of at least \$7.5 million. Our ability to satisfy the fixed charge coverage ratio and the minimum liquidity requirement 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, or the minimum liquidity requirement, could render us unable to borrow under the Senior Credit Facility at the time when liquidity is most needed.

The Senior Secured Credit Facility also contains a weekly test requiring a cash sweep and mandatory pay down of the outstanding balance of such facility if from time to time our available cash balance exceeds \$12.0 million.

A breach of any covenant or restriction contained in the agreement governing our Senior Secured Credit Facility could result in an event of default under this agreement. If any such event of default occurs, the lenders under the facility 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 Senior Secured Credit Facility, 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 Senior Secured Credit Facility, the lenders under the facility will have the right to proceed against the collateral granted to them to secure that debt. If the debt under our Senior Secured Credit Facility

was to be accelerated, our assets may not be sufficient to repay in full that debt or any other debt that may become due as a result of that acceleration.

Volatility and weakness in bank and capital markets may adversely affect credit availability and related financing costs for us.

The indebtedness under our Senior Secured Credit Facility matures on May 1, 2023. Our ability to refinance this indebtedness on acceptable terms will be dependent upon a number of factors, including our degree of leverage, the value of our assets, borrowing restrictions which may be imposed by lenders and conditions in the credit markets at the time we refinance. Furthermore, bank and capital markets can experience periods of volatility and disruption. If the disruption in these markets is prolonged, our ability to refinance, and the related cost of refinancing, some or all of our debt could be adversely affected. There is also a risk, during periods of volatile credit markets, that lenders, even those with strong balance sheets and sound lending practices, could fail or refuse to honor their legal commitments and obligations under existing credit commitments, including our Senior Secured Credit Facility. Although we currently can access the bank and capital markets, there is no assurance that such markets will continue to be a reliable source of financing for us. These factors, including the tightening of credit markets, could adversely affect our ability to obtain cost-effective financing. Increased volatility and disruptions in the financial markets also could make it more difficult and more expensive for us to refinance outstanding indebtedness and obtain financing. In addition, the adoption of new statutes and regulations, the implementation of recently enacted laws or new interpretations or the enforcement of older laws and regulations applicable to the financial markets or the financial services industry could result in a reduction in the amount of available credit or an increase in the cost of credit. Disruptions in the financial markets can also adversely affect our lenders, insurers, customers and other counterparties. Perceptions of us and the industries in which we or our customers operate, including perceptions of our ESG attributes may result in pressure on banks and other financial institutions t

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.

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 62.1% 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 Senior Secured Credit 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 Senior Secured Credit 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 an "emerging growth company" and "smaller reporting company" and may elect to comply with reduced reporting requirements applicable to emerging growth companies, which could make our common stock less attractive to investors.

We are an emerging growth company and we may take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies, including, but not limited to, not being required to comply with the auditor attestation requirements of Section 404 of Sarbanes-Oxley Act of 2002, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved. In addition, even if we choose to comply with certain of the greater obligations of public companies that are not emerging growth companies, we may avail ourselves of the reduced requirements applicable to emerging growth companies from time to time in the future. We cannot predict if investors will find our common stock less attractive if we choose to rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile.

We will remain an emerging growth company until December 31, 2022, or until the earliest of (i) the last day of the first fiscal year in which our annual gross revenues exceed \$1.07 billion, (ii) the date that we become a "large accelerated filer" as defined in Rule 12b-2 under the Securities Exchange Act of 1934, as amended ("Exchange Act"), which would occur if the market value of our common stock that is held by non-affiliates exceeds \$700 million as of the last business day of our most recently completed second fiscal quarter, or (iii) the date on which we have issued more than \$1.0 billion in non-convertible debt during the preceding three-year period, whether or not issued in a registered offering.

Notwithstanding the above, we are also 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. In the event that we are still considered a "smaller reporting company," at such time we cease being an "emerging growth company," we will be required to provide additional disclosure in our SEC filings. This increase in reporting requirements will further increase our compliance burden. Our management and other personnel are required to devote a substantial amount of time to these compliance initiatives, including an increase in our legal and financial compliance costs. We cannot predict or estimate the amount or timing of additional costs we may incur to respond to these requirements. However, similar to "emerging growth companies," "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 are exempt from the requirements of holding a nonbinding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved; 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 an "emerging growth company" or "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 director or our officers or employees arising pursuant to any provision of the DGCL, our certificate or our amended and restated bylaws; or (iv) any action asserting a claim against us, any director or our officers or employees that is governed by the internal affairs doctrine. Any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock shall be deemed to have notice of and to have consented to the provisions 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 of the federal 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. Because we operate within 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 4, 2022, we had 2,405,746 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 secured credit facilities, 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, 2021, 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.

Overview

We are a leading provider of highly engineered products and support services that facilitate the optimization of oil and natural gas well completions and field development strategies. We provide our products and services primarily to E&P companies for use in onshore wells, predominantly wells that have been drilled with horizontal laterals in unconventional 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 225 customers in 2021, 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 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. 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 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 our casing buoyancy system, 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 related to oil and natural gas prices.

Drilling activity in the United States bottomed in the third quarter of 2020 before increasing in the fourth quarter of 2020 and throughout 2021. Completion activity in the United States also increased throughout 2021, although customer drilling and completion activity in the United States in the first quarter of 2021 was negatively impacted by winter storm Uri. The Canadian rig count, which was also well below typical seasonal levels during the last three quarters of 2020, experienced the expected seasonal increase in the first quarter of 2021 but was 26% below the same period of 2020; however, by the second quarter of 2021, the Canadian rig count had surpassed 2020 levels and was 82% higher in the fourth quarter of 2021 compared to the fourth quarter of 2020. Additionally, during the third and fourth quarters of 2021, the Canadian rig count surpassed 2019 levels, prior to the COVID-19 pandemic, indicating a stronger industry recovery in Canada than in the United States.

Based on capital budgets for 2022 that have been set by E&P companies, we believe that industry drilling and completion activity in the United States will be higher in 2021 than in 2021, with drilling activity increasing by over 20%, a faster rate than completion activity, which we expect to increase by over 10%. We expect drilling and completion activity to increase by 10% to 15% in Canada in 2022, with year-over-year increases highest in the first quarter before moderating over the remainder of the year. We currently expect international industry activity to improve by over 10% in 2022 as compared to 2021, reflecting recent increases in the international rig count. Many of our customers in North America continue to be committed to generating free cash flow while maintaining production at year-end 2021 levels, though privately-owned operators have increased activity as commodity prices improved and have contributed to the majority of activity increases since the end of 2020. Oil and natural gas prices continued to rise in early 2022, and spot pricing increased further following Russia's invasion of Ukraine in late February.

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 as well as our margins.

COVID-19 Impacts on the Oil & 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. Governments around the world implemented measures designed to slow the spread of COVID-19; however, in many countries, the most restrictive measures were eased throughout the second quarter of 2020 and further reduced with the distribution of vaccines in early 2021. These measures taken to slow the spread of COVID-19 have had material impacts on the global economy, resulting in a significant reduction in global gross domestic product ("GDP") in 2020 and continued to negatively impact global GDP in 2021 as compared to 2019.

The demand for crude oil was materially reduced as a result of the measures taken by governments around the world to mitigate the spread of COVID-19. In response, members of OPEC+ agreed to a collective reduction in oil production of 9.7 MMBBL/D in May through July of 2020. With the distribution of vaccines and reopening of certain economic activities that resulted in increases in demand for oil and natural gas, much of this production has since been restored, with OPEC+ currently scheduled to add 0.4 MMBBL/D of production each month until production would be fully-restored in September 2022. Given the uncertainty related to the rate of new COVID-19 infections, vaccinations, economic recovery and oil demand recovery, OPEC+ plans to continue to meet monthly during 2022 to evaluate potential increases or decreases to the targeted level of production.

As a result of the rapid and material reduction in oil pricing in 2020, E&P companies responded by significantly reducing their capital expenditure budgets for that year, which resulted in significant reductions in drilling and completion activity. While commodity prices recovered in late 2020, capital budgets for E&P companies in the United States in 2021 were relatively in line with 2020, while E&P capital spending in 2021 exceeded 2020 levels in Canada. Preliminary capital budgets for 2022 indicate increases from 2021, led by private companies as public E&P companies continue to prioritize free cash flow with limited production growth.

The factors mentioned above have also led to an increase in consolidation amongst E&P companies, especially large, independent publicly-traded E&P companies. During 2020 and 2021, several large consolidation transactions were consummated. We provided products and services to several of the companies involved in consolidation transactions, and have experienced a reduction in spending with certain customers, especially for Repeat Precision's products, and may 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 provide.

While we experienced modest disruptions to our supply chain as a result of the COVID-19 pandemic, including delays in importation of certain chemical products from China and temporary work-from-home orders that reduced the capacity at the Repeat Precision machine shop operations in Mexico, such disruptions were temporary in nature, the impacted products are available through alternative sources of supply, and we maintained sufficient inventory on hand to meet customer demand. We also experienced delays in access to certain materials and products utilized in our research and development activities, which has led, and may continue to lead, to delays in new product introductions. The continuing impacts of the COVID-19 pandemic are contributing to ongoing supply chain disruptions and cost inflation, including labor cost inflation, the effects of which have continued into 2022.

In response to the reduction in demand for our products and services, including as a result of the COVID-19 pandemic, throughout 2020 and 2021 NCS has undertaken, and the Board has and continues to monitor and evaluate initiatives to reduce our cost structure, limit capital expenditures and enhance our liquidity and access to capital, including:

- Reductions in force and reductions to salaries and hourly rates for substantially all employees, not paying 2019 or 2020 bonuses, and a temporary elimination of the employer matching contributions for NCS's U.S. 401(k) plan and its Registered Retirement Savings Plan in Canada. Such salaries were substantially reinstated in mid-2021, salary increases were implemented in the first quarter of 2022 and employer matching contributions were restored in 2022;
 A moratorium on non-essential travel for all employees, negotiation of new rates, work rules and payment schedules with vendors, and
- reductions in third-party spend, including information technology, financial services and third-party research and development;
- Deferral of U.S. employer payroll taxes for 2020, as permitted under the CARES Act, application for, and receipt of, benefits under the Canada Emergency Wage Subsidy ("CEWS") and Canada Emergency Rent Subsidy ("CERS") programs, and application for, and receipt of, refundable employee retention tax credits under the Taxpayer Certainty and Disaster Tax Relief Act of 2020;
- Reducing planned capital expenditures for 2020 and 2021 and selling excess vehicles;
- ☐ Closing our district operational facilities in Corpus Christi and Oklahoma City and relocating our U.S. assembly operations; and
- Amending our revolving credit facility to modify certain covenants and to establish a borrowing base related to our accounts receivable, which we believe provides us with enhanced financial flexibility (as described in more detail in "Note 9. Debt" in our consolidated financial statements).

NCS continues to evaluate market conditions and will continue to take necessary actions to further reduce our cost structure and enhance liquidity should there be a further reduction in the demand for our products and services.

In connection with the reductions in force described above, NCS recorded severance expense of \$5.7 million during the year ended December 31, 2020, with no significant severance or termination benefits incurred during the year ended December 31, 2021. For additional information, see "Note 11. Severance and Other Termination Benefits" of our consolidated financial statements.

As a result of the decrease in crude oil pricing, customer capital spending plans and activity as a result of the decline in market conditions primarily related to the COVID-19 pandemic as well as the resulting decline in the quoted price of our common stock, we assessed the recoverability of the carrying value of our property and equipment and identifiable intangible assets as of March 31, 2020 and determined that a triggering event had occurred. As a result of the analysis, we recorded impairment charges of \$9.7 million in property and equipment and \$40.5 million related to identifiable intangible assets, which we recorded during the first quarter of 2020. There were no impairment charges recorded on our property and equipment or identifiable intangible assets during the remainder of 2020 or for the year ended December 31, 2021. For additional information, see "Note 6. Property and Equipment" and "Note 7. Goodwill and Identifiable Intangibles" of our consolidated financial statements.

On August 6, 2020, we entered into an amendment to our Senior Secured Credit Facility which, among other changes, reduced the lender commitments in the United States under our Senior Secured Credit Facility to \$25.0 million and further limited the amount we may borrow subject to a borrowing base calculated on eligible receivables, which does not include receivables at Repeat Precision. See —"Liquidity and Capital Resources—Financing Arrangements" for a description of the amendment. Our borrowing base under the Senior Secured Credit Facility as of December 31, 2021 was \$15.4 million. The amount available to be drawn under the Senior Secured Credit Facility may decline from current levels due to reductions in our borrowing base or a springing financial covenant, if our business were to be further adversely impacted by a decline in market conditions, including as a result of the COVID-19 pandemic.

See Item 1A. Risk Factors for a discussion of additional actual or potential impacts of the COVID-19 pandemic on our business and operations.

Market Conditions

Oil and Natural Gas Drilling and Completion Activity

Oil and natural gas prices remain volatile, with WTI crude oil pricing at approximately \$61/BBL at the end of December 2019, falling to approximately \$48/BBL at the end of December 2020 before increasing to approximately \$75/BBL at the end of December 2021, with crude oil pricing continuing to be supported by voluntary oil production reductions by members of OPEC+ as discussed above. WTI crude oil pricing has continued to rise in 2022 reaching approximately \$90 per barrel by mid-February before rising to over \$100 per barrel following Russia's invasion of Ukraine. The improvement in oil demand from 2020 lows, combined with OPEC+ production curtailments has led to global oil and refined products storage levels being below long-term averages, which has also supported oil pricing.

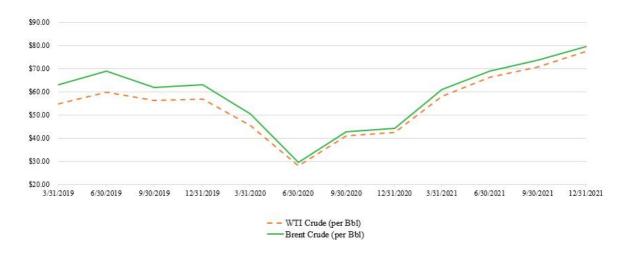
Natural gas pricing was at an average level of \$2.56 per MMBtu during the year ended 2019 as supply growth exceeded demand growth. Natural gas pricing fell even further to an average level of \$2.03 per MMBtu during the year ended 2020 as it was negatively impacted by the COVID-19 pandemic and resulting market conditions. Natural gas pricing increased to an average level of \$3.89 per MMBtu during 2021 but was volatile during the year. Realized natural gas prices for Canadian E&P customers are typically at a discount to U.S. Henry Hub pricing. Spot pricing for Canadian natural gas at the AECO hub has been volatile since mid-2017, with discounts to Henry Hub pricing narrowing over time as infrastructure bottlenecks have been partially alleviated. 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.

Sustained declines in commodity prices, 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.

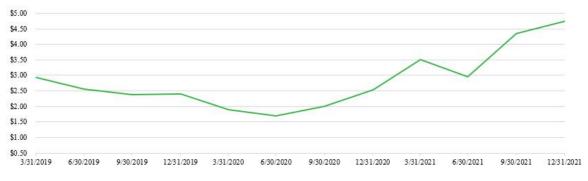
Listed and depicted below are recent crude oil and natural gas pricing trends, as provided by the Energy Information Administration ("EIA") of the U.S. Department of Energy:

		Average Price	
Quarter Ended	WTI Crude (per Bbl)	Brent Crude (per Bbl)	Henry Hub Natural Gas (per MMBtu)
3/31/2019	54.82	63.10	2.92
6/30/2019	59.88	69.04	2.57
9/30/2019	56.34	61.95	2.38
12/31/2019	56.82	63.17	2.40
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

Crude Oil (per Bbl)



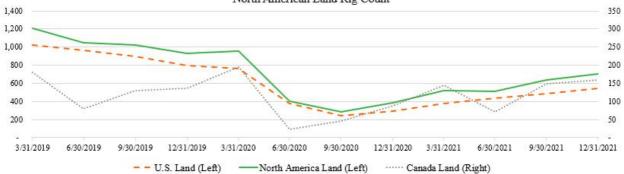
Henry Hub Natural Gas (per MMBtu)



—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 2019, 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					
3/31/2019	1,023	181	1,204					
6/30/2019	967	79	1,046					
9/30/2019	894	130	1,024					
12/31/2019	797	136	933					
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					
North American Land Ri	ig Count							
1,400			350					
1,200			300					
1,200			300					



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. Both the rig count and completion activity in the United States began to decline in 2019 and the decline accelerated in 2020 before bottoming in the third quarter and increasing during the fourth quarter of 2020. During 2021, the average U.S. land rig count continued to increase to an average of 545 during the fourth quarter of 2021, which was 84% higher than the fourth quarter of 2020, but remained 32% below the fourth quarter of 2019. The average land rig count in Canada for the fourth quarter of 2021 was 82% higher than in the same period in 2020 and 17% higher than the same period in 2019. We expect U.S. and Canadian rig counts and completion activity to continue to rise in 2022 compared to prior year levels.

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 lower than activity in the first quarter. Our business can also 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 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 continuing technological advances in competing traditional well completions 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.

How We Generate Revenues

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, and related products through Repeat Precision and from sales of our tracer diagnostics services, casing buoyancy system, liner hanger systems and toe initiation sleeves products.

Product sales represented 70%, 70% and 71% of our revenues for the years ended December 31, 2021, 2020 and 2019, 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 30%, 30% and 29% of our revenues for the years ended December 31, 2021, 2020 and 2019, 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 certain 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.

For the years ended December 31, 2021, 2020 and 2019, approximately 62%, 45% and 42%, respectively, of our revenues were derived from sales in Canada and were denominated in Canadian dollars. Because our Canadian contracts are typically invoiced in Canadian dollars, 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 manufacturing of product components and finished assemblies and costs related to our employees that perform quality control analysis, assemble and test our products. Our strategic 50% purchase of Repeat Precision has allowed us to reduce our costs for certain product categories. We review forecasted activity levels in our business and either directly procure or ensure that our vendors procure the required raw materials with sufficient lead time to meet our business requirements. On September 24, 2018, the United States implemented a tariff of 10% on a significant number of commodities originating from China, including certain chemicals utilized in our tracer diagnostics business. The tariffs were subsequently increased to 25% in May 2019. The increased tariffs have resulted in an increase in our cost of sales. In addition, we are monitoring prices for certain raw materials, including steel and purchased components, which have increased during 2021, with such increases continuing into 2022. While we strive to pass through some of the increases in raw material and component costs to our customers, there can be no assurance that we will be able to do so. 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 selling, general and administrative ("SG&A") expenses are comprised of compensation expense, which includes compensation and benefitrelated 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 severance expenses, litigation expenses and provisions for doubtful accounts.

During 2021, we began to experience tight labor conditions which is leading to increased employee turnover and delays in filling open positions as well as labor cost inflation, which impacts both our cost of sales and our SG&A expenses. This labor cost inflation, which is continuing into 2022, includes increases in salaries and hourly pay rates and is expected to result in increased benefits costs as well.

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 25%, 19% and 22%, for the years ended December 31, 2021, 2020 and 2019, respectively.

Results of Operations

The following table summarizes our revenues and expenses for the years ended December 31, 2021 and 2020. A discussion of our results of operations for the year ended December 31, 2020 compared to the year ended December 31, 2019 is included in Part II, Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations" of our Annual Report on Form 10-K for the year ended December 31, 2020, filed with the SEC on March 8, 2021 and is incorporated by reference into this Form 10-K.

	Year Ended December 31,				Variance			
	2021 2020				\$	%		
Revenues								
Product sales	\$	83,223	\$	75,197	\$	8,026	10.7 %	
Services		35,279		31,780		3,499	11.0 %	
Total revenues		118,502		106,977		11,525	10.8 %	
Cost of sales								
Cost of product sales, exclusive of depreciation								
and amortization expense shown below		51,897		46,647		5,250	11.3 %	
Cost of services, exclusive of depreciation								
and amortization expense shown below		18,130		16,260		1,870	11.5 %	
Total cost of sales, exclusive of depreciation			-	_		_		
and amortization expense shown below		70,027		62,907		7,120	11.3 %	
Selling, general and administrative expenses		49,094		59,425		(10,331)	(17.4)%	
Depreciation		3,832		4,426		(594)	(13.4)%	
Amortization		669		1,465		(796)	(54.3)%	
Impairments				50,194		(50,194)	(100.0)%	
Loss from operations		(5,120)		(71,440)		66,320	92.8 %	
Other income (expense)								
Interest expense, net		(733)		(1,796)		1,063	59.2 %	
Gain on patent infringement settlement				25,678		(25,678)	(100.0)%	
Other income, net		2,054		1,729		325	18.8 %	
Foreign currency exchange gain (loss)		283		(1,060)		1,343	126.7 %	
Total other income (expense)		1,604		24,551		(22,947)	(93.5)%	
Loss before income tax		(3,516)		(46,889)		43,373	92.5 %	
Income tax expense (benefit)		263		(7,783)		8,046	103.4 %	
Net loss		(3,779)		(39,106)		35,327	90.3 %	
Net income attributable to non-controlling interest		955		18,493		(17,538)	(94.8)%	
Net loss attributable to NCS Multistage Holdings, Inc.	\$	(4,734)	\$	(57,599)	\$	52,865	91.8 %	

Year Ended December 31, 2021 compared to Year Ended December 31, 2020

Revenues

Revenues were \$118.5 million for the year ended December 31, 2021 as compared to \$107.0 million for the year ended December 31, 2020. This increase reflected higher product sales and services volumes in Canada, an increase in services volumes in the United States and higher international product sales partially offset by reductions in international services volumes and decreased U.S. product sales as well as lower pricing for certain products and services, including at Repeat Precision. Year-over-year increases in activity since the second quarter of 2021 as compared to 2020, more than offset the year-over-year decrease in activity in the first quarter of 2021 as compared to 2020. This reflects the timing of the impact of the decline in market conditions primarily related to the COVID-19 pandemic, which had a negative impact on our revenues beginning in March 2020 and resulted in industry activity that reached trough levels during the third quarter of 2020 before beginning to recover. Activity in Canada experienced a stronger recovery from trough levels than the United States and other international markets. Product sales for the year ended December 31, 2021 were \$83.2 million as compared to \$75.2 million for the year ended December 31, 2020. Our services revenue was \$35.3 million for the year ended December 31, 2021 as compared to \$31.8 million for the year ended December 31, 2020.

Cost of sales

Cost of sales was \$70.0 million, or 59.1% of revenues, for the year ended December 31, 2021 as compared to \$62.9 million, or 58.8% of revenues, for the year ended December 31, 2020. Cost of sales as a percentage of total revenues increased slightly despite the modest increase in revenue primarily due to lower activity levels outside of North America and a reduction in pricing for certain products and services. Cost of sales in the first half of 2021 was also impacted by higher scrap expense and inventory reserves at Repeat Precision related to product design changes. We believe that our cost of sales as a percentage of revenue was negatively impacted by pricing reductions that were the result of a decline in oil and gas market activity levels primarily related to the COVID-19 pandemic and which we have not yet been able to recover. 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 for the year ended December 31, 2021. For the year ended December 31, 2020, cost of product sales was \$46.6 million or 62.0% of product sales revenue and cost of services was \$16.3 million or 51.2% of services revenue.

Selling, general and administrative expenses

Selling, general and administrative expenses were \$49.1 million for the year ended December 31, 2021 as compared to \$59.4 million for the year ended December 31, 2020. This overall decrease in expense reflects reductions in compensation and benefits associated with lower headcount and lower salary and wages, share-based compensation, professional fees, and bad debt expense of \$3.0 million, \$1.9 million, \$1.6 million and \$0.9 million, respectively. Severance charges declined by \$5.6 million as compared to 2020 due to the timing of workforce reductions. In addition, the decrease reflects a benefit of \$2.3 million in 2021 associated with the U.S. employee retention credit claims. See "Note 10. Commitments and Contingencies" of our consolidated financial statements for additional detail. The overall decrease was partially offset by increases in litigation expenses of \$3.6 million and bonus accruals of \$3.7 million.

Depreciation

Depreciation was \$3.8 million for the year ended December 31, 2021 as compared to \$4.4 million for the year ended December 31, 2020. The decrease is primarily attributable to a non-cash impairment charge of \$9.7 million during the first quarter of 2020, which reduced the carrying values of our land, building and improvements and machinery and equipment. Additionally, our capital expenditures in 2020 and 2021 have been lower than in prior years and we have sold excess vehicles financed through capital leases. See "Note 6. Property and Equipment" and "Note 15. Leases" of our consolidated financial statements for additional detail.

Amortization

Amortization was \$0.7 million for the year ended December 31, 2021 as compared to \$1.5 million for the year ended December 31, 2020. The decrease in amortization was related to non-cash impairment charges of \$40.5 million during the first quarter of 2020, which reduced the carrying values of technology, internally-developed software, customer relationships, and trademarks. See "Note 7. Goodwill and Identifiable Intangibles" of our consolidated financial statements for additional detail.

Impairment

On March 31, 2020, we evaluated our property and equipment and identifiable intangible assets for impairment due to current industry conditions such as a reduction in global economic growth expectations, a significantly reduced demand for crude oil and refined products, the significant decline in commodity prices and the corresponding impact on future expectations of demand for our products and services primarily related to the COVID-19 pandemic as well as the resulting decline in the quoted price of our common

stock. We determined that the carrying amount of certain of our long-lived assets exceeded the corresponding fair value. We recorded impairment charges of \$9.7 million in property and equipment and \$40.5 million in identifiable intangible assets. 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 additional detail related to these charges. There were no additional impairment charges related to our goodwill, property and equipment or identifiable intangible assets during the remainder of 2020 or for the year ended December 31, 2021.

Interest expense, net

Interest expense, net was \$0.7 million for the year ended December 31, 2021 as compared to \$1.8 million for the year ended December 31, 2020. The decrease in interest expense, net was primarily a result of the \$0.6 million write-off of deferred loan costs associated with the amendment to our Senior Secured Credit Facility in August 2020 and a reduction in the average debt outstanding in 2021 compared to 2020.

Gain on patent infringement settlement

Gain on patent infringement settlement was \$25.7 million for the year ended December 31, 2020, which represents the gain realized from the settlement of the final court judgment against Diamondback Industries, Inc. ("Diamondback") and includes \$1.1 million of proceeds from our directors and officers liability insurance related to the reimbursement of legal expenses that we incurred to defend a director and officer in the Diamondback litigation and is net of related legal fees incurred in 2020 of \$2.7 million. See "Note 10. Commitments and Contingencies" of our consolidated financial statements.

Foreign currency exchange gain (loss), net

Foreign currency exchange gain was \$0.3 million for the year ended December 31, 2021 as compared to a loss of \$(1.1) million for the year ended December 31, 2020. The change was primarily due to the movement in the foreign currency exchange rates between the periods.

Income tax expense (benefit)

Income tax expense (benefit) was \$0.3 million for the year ended December 31, 2021 as compared to \$(7.8) million for the year ended December 31, 2020.

Included in tax expense 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.

Included in the tax benefit for the year ended December 31, 2020 were several U.S. tax expense (benefit) adjustments related to the enactment of the CARES Act, including a tax benefit of \$(0.9) million for a net operating loss carryback that was previously unavailable and a tax expense of \$6.5 million for an increase in a valuation allowance on deferred tax assets not expected to be realized. Also included in the tax benefit for the year ended December 31, 2020 was a tax expense of \$1.4 million for a valuation allowance against our Canadian deferred tax asset, a benefit of \$(1.5) million related to non-U.S. income taxed at different rates, and an expense of \$1.0 million for tax effects of stock awards.

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:

Revenues

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 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 (benefit) 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 impairments and share-based compensation, are non-cash in nature. Adjusted

EBITDA Less Share-Based Compensation is calculated in the same manner as Adjusted EBITDA, with the sole exception being that it does not addback 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 Less Share-Based Compensation may not be comparable to similarly titled measures of other companies in our industry and are not 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):

Income tax expense (benefit) 263 (7,783 Interest expense, net (1) 733 1,796 Depreciation 3,832 4,426 Amortization 669 1,465 EBITDA 1,718 (39,202 Impairments (2) — 50,194 Gain on patent infringement settlement (3) — (25,678 Share-based compensation (4) 4,221 7,723 Professional fees (5) 4,885 1,295 Net benefit of ERC (6) (1,908) — Foreign currency (gain) loss (7) (283) 1,060 Severance and other termination benefits (8) — 5,661 Other (9) 461 1,131		 Year Ended December 31,							
Income tax expense (benefit) 263 (7,783 Interest expense, net (1) 733 1,796 Depreciation 3,832 4,426 Amortization 669 1,465 EBITDA 1,718 (39,202 Impairments (2) — 50,194 Gain on patent infringement settlement (3) — (25,678 Share-based compensation (4) 4,221 7,723 Professional fees (5) 4,885 1,295 Net benefit of ERC (6) (1,908) — Foreign currency (gain) loss (7) (283) 1,060 Severance and other termination benefits (8) — 5,661 Other (9) 461 1,131		2021		2020					
Interest expense, net (1) 733 1,796 Depreciation 3,832 4,426 Amortization 669 1,465 EBITDA 1,718 (39,202 Impairments (2) — 50,194 Gain on patent infringement settlement (3) — (25,678 Share-based compensation (4) 4,221 7,723 Professional fees (5) 4,885 1,295 Net benefit of ERC (6) (1,908) — Foreign currency (gain) loss (7) (283) 1,060 Severance and other termination benefits (8) — 5,661 Other (9) 461 1,131	Net loss	\$ (3,779)	\$	(39,106)					
Depreciation 3,832 4,426 Amortization 669 1,465 EBITDA 1,718 (39,202 Impairments (2) — 50,194 Gain on patent infringement settlement (3) — (25,678 Share-based compensation (4) 4,221 7,723 Professional fees (5) 4,885 1,295 Net benefit of ERC (6) (1,908) — Foreign currency (gain) loss (7) (283) 1,060 Severance and other termination benefits (8) — 5,661 Other (9) 461 1,131	Income tax expense (benefit)	263		(7,783)					
Amortization 669 1,465 EBITDA 1,718 (39,202 Impairments (2) — 50,194 Gain on patent infringement settlement (3) — (25,678 Share-based compensation (4) 4,221 7,723 Professional fees (5) 4,885 1,295 Net benefit of ERC (6) (1,908) — Foreign currency (gain) loss (7) (283) 1,060 Severance and other termination benefits (8) — 5,661 Other (9) 461 1,131	Interest expense, net (1)	733		1,796					
EBITDA 1,718 (39,202 Impairments (2) — 50,194 Gain on patent infringement settlement (3) — (25,678 Share-based compensation (4) 4,221 7,723 Professional fees (5) 4,885 1,295 Net benefit of ERC (6) (1,908) — Foreign currency (gain) loss (7) (283) 1,060 Severance and other termination benefits (8) — 5,661 Other (9) 461 1,131	Depreciation	3,832		4,426					
Impairments (2) — 50,194 Gain on patent infringement settlement (3) — (25,678 Share-based compensation (4) 4,221 7,723 Professional fees (5) 4,885 1,295 Net benefit of ERC (6) (1,908) — Foreign currency (gain) loss (7) (283) 1,060 Severance and other termination benefits (8) — 5,661 Other (9) 461 1,131	Amortization	669		1,465					
Gain on patent infringement settlement (3) — (25,678 Share-based compensation (4) 4,221 7,723 Professional fees (5) 4,885 1,295 Net benefit of ERC (6) (1,908) — Foreign currency (gain) loss (7) (283) 1,060 Severance and other termination benefits (8) — 5,661 Other (9) 461 1,131	EBITDA	 1,718		(39,202)					
Share-based compensation (4) 4,221 7,723 Professional fees (5) 4,885 1,295 Net benefit of ERC (6) (1,908) — Foreign currency (gain) loss (7) (283) 1,060 Severance and other termination benefits (8) — 5,661 Other (9) 461 1,131	Impairments (2)	_		50,194					
Professional fees (5) 4,885 1,295 Net benefit of ERC (6) (1,908) — Foreign currency (gain) loss (7) (283) 1,060 Severance and other termination benefits (8) — 5,661 Other (9) 461 1,131		_		(25,678)					
Net benefit of ERC (6) (1,908) — Foreign currency (gain) loss (7) (283) 1,060 Severance and other termination benefits (8) — 5,661 Other (9) 461 1,131	Share-based compensation (4)	4,221		7,723					
Foreign currency (gain) loss (7) (283) 1,060 Severance and other termination benefits (8) — 5,661 Other (9) 461 1,131	Professional fees (5)	4,885		1,295					
Severance and other termination benefits (8) — 5,661 Other (9) 461 1,131		(1,908)		_					
Other (9) 461 1,131	Foreign currency (gain) loss (7)	(283)		1,060					
	Severance and other termination benefits (8)	<u> </u>		5,661					
Adjusted EBITDA \$ 9.094 \$ 2.184	Other (9)	461		1,131					
114 Justica Editori	Adjusted EBITDA	\$ 9,094	\$	2,184					
Adjusted EBITDA Less Share-Based Compensation \$ 4,873 \$ (5,539)	Adjusted EBITDA Less Share-Based Compensation	\$ 4,873	\$	(5,539)					

- (1) Includes the remaining deferred loan costs of \$0.6 million related to prior credit agreements that were expensed when the debt was amended and repaid during 2020.
- (2) Represents non-cash impairment charges recorded in 2020 related to property and equipment and intangible assets.
- (3) Represents gain realized from the final court judgment against Diamondback. See "Note 10. Commitments and Contingencies" of our consolidated financial statements.
- (4) Represents non-cash compensation charges related to share-based compensation granted to our officers, employees and directors.
- (5) Represents non-capitalizable costs of professional services incurred in connection with legal proceedings and the evaluation of potential acquisitions.
- 6) Represents ERC benefits recorded during 2021 less the effect on bonus and associated payroll burden accruals.
- (7) Represents unrealized and realized foreign currency translation gains and losses primarily due to movement in the foreign exchange rates during the applicable periods.
- (8) Represents charges incurred in connection with the reductions in workforce implemented in 2020.
- (9) 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 presented in the net cash used in financing activities section of our consolidated statements of cash flows. Management believes that 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 our joint venture partner. Free cash flow and free cash flow less 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 Senior Secured Credit Facility, that are not deducted in calculating either free cash flow or free cash flow less distributions to non-controlling interest. Free cash flow and 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,				
	2021		2020		
Net cash provided by operating activities	\$ 11,583	\$	35,117		
Purchases of property and equipment	(495)		(2,098)		
Purchase and development of software and technology	(338)		(55)		
Proceeds from sales of property and equipment	389		1,094		
Free cash flow	\$ 11,139	\$	34,058		
Distributions to non-controlling interest	(2,750)		(17,550)		
Free cash flow less distributions to non-controlling interest	\$ 8,389	\$	16,508		

Liquidity and Capital Resources

Our primary sources of liquidity are our existing cash and cash equivalents, cash provided by operating activities and borrowings under our Senior Secured Credit Facility. As of December 31, 2021, we had cash and cash equivalents of \$22.2 million, and total outstanding indebtedness of \$7.8 million related to capital lease obligations, of which \$1.5 million is due within 12 months. Our Senior Secured Credit Facility consists of a senior secured revolving credit facility in an aggregate principal amount of \$25.0 million. Total borrowings are limited to a borrowing base calculated based on eligible receivables, which does not include receivables at Repeat Precision. At December 31, 2021, our borrowing base under the Senior Secured Credit Facility was \$15.4 million, with no outstanding borrowings and less than \$0.1 million in letter of credit commitments utilized. The amount available to be drawn under the Senior Secured Credit 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, 2021. We believe that our cash on hand, cash flows from operations and potential borrowings under our Senior Secured Credit Facility 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 \$2 million to \$3 million in capital expenditures during 2022, which includes (i) upgrades to our tracer diagnostics deployment and sampling equipment, (ii) machining equipment and molds to increase manufacturing capacity at Repeat Precision, (iii) new computers and engineering workstations and (iv) equipment to support growth in our Canadian liner hanger operations. Our capital expenditures, including the purchase and development of software and technology, for the years ended December 31, 2021 and 2020 were \$0.8 million and \$2.2 million, respectively. Our 2021 capital expenditures included (i) additional machining and other capital equipment at Repeat Precision, (ii) internally-developed software, (iii) additional equipment to support our tracer diagnostics services and (iv) vehicles used in international operations.

To the extent we require additional liquidity to fund our capital requirements or repay existing indebtedness, we would expect to obtain it through the incurrence of additional indebtedness, the proceeds of equity issuances, or a combination thereof. We cannot assure you 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 COVID-19 pandemic. Accordingly, we cannot assure you 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 additional equity to finance such acquisitions, which could result in additional 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,					
		2021		2020		
Net cash provided by operating activities	\$	11,583	\$	35,117		
Net cash used in investing activities		(444)		(1,059)		
Net cash used in financing activities		(4,265)		(29,773)		
Effect of exchange rate changes on cash and cash equivalents		(251)		17		
Net change in cash and cash equivalents	\$	6,623	\$	4,302		

Operating Activities

Net cash provided by operating activities was \$11.6 million compared to \$35.1 million for the years ended December 31, 2021 and 2020, respectively. The decrease in cash flow was primarily driven by the receipt of \$21.4 million in cash proceeds at Repeat Precision in 2020 associated with a patent infringement settlement and unfavorable changes in accounts receivable, inventories and other liabilities as well as lower non-cash share-based compensation and depreciation and amortization expenses. The decrease was partially offset by higher net income in 2021 as compared to 2020, after adjusting for impairment charges and the gain on patent infringement settlement, due to higher activity levels in 2021 as markets begin to recover from the COVID-19 pandemic shut-downs during 2020. In addition, there were favorable changes in accounts payable, accrued expenses, income taxes receivable/payable and prepaid expenses and other assets.

Investing Activities

Net cash used in investing activities was \$0.4 million and \$1.1 million for the years ended December 31, 2021 and 2020, respectively. The decrease in cash used in investing activities during the year ended December 31, 2021 as compared to the year ended December 31, 2020 was primarily related to reduced capital expenditures for property and equipment partially offset by an increase in purchase and development of software and technology and lower asset sale proceeds.

Financing Activities

Net cash used in financing activities for the years ended December 31, 2021 and 2020 was \$4.3 million and \$29.8 million, respectively. 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 under finance leases of \$1.3 million. The primary use of funds during the year ended December 31, 2020 was distributions to our joint venture partner of \$17.6 million, net repayments under the Senior Secured Credit Facility of \$10.0 million, and principal payments under finance leases of \$1.5 million.

Material Cash Requirements

Our material cash requirements include the following contractual and other obligations.

Financing Arrangements

Our Senior Secured Credit Facility consists of a senior secured revolving credit facility in an aggregate principal amount of \$25.0 million. Total borrowings available under the Senior Secured Credit Facility may be limited subject to a borrowing base calculated on eligible receivables, which does not include receivables at Repeat Precision. At December 31, 2021, our borrowing base under the Senior Secured Credit Facility was \$15.4 million, we had no outstanding indebtedness under the Senior Secured Credit Facility, and we utilized letter of credit commitments of less than \$0.1 million.

Repeat Precision also has an outstanding promissory note with an aggregate borrowing capacity of up to \$4.3 million as of December 31, 2021, subject to a borrowing base. As of December 31, 2021, Repeat Precision had no 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.

Leases

We have operating and finance leases for facilities, vehicles, and equipment. As of December 31, 2021, we had lease payment obligations, including interest payments for finance leases of \$15.0 million, with \$3.6 million payable within 12 months. See "Note 15. Leases" to our consolidated financial statements for additional information on lease obligations and maturities.

Purchase Obligations

Our purchase obligations in the amount of \$9.4 million primarily represent commitments to purchase goods or services to be utilized in the normal course of business, of which \$7.8 million is payable within 12 months and is not reflected in the accompanying consolidated balance sheets.

Tax Obligations

Our tax obligations of \$0.7 million, of which \$0.4 million is due within 12 months, include deferred FICA taxes and a mandatory one-time tax on accumulated earnings of foreign subsidiaries resulting from the 2017 Tax Act. The deferred FICA taxes payable are due in 2022. The income tax payable related to the 2017 Tax Act is due in installments in varying percentages over the next four 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 and expense of \$0.8 million and \$3.5 million for the years ended December 31, 2021, 2020 and 2019, respectively, though we have been successful historically 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 \$1.8 million, \$1.8 million, and \$0.9 million for the years ended December 31, 2021, 2020 and 2019, respectively. An increase of obsolescence expense by 10%, or \$0.2 million, would not be deemed material to our financial statements.

Impairments

We evaluate our property and equipment and identifiable intangible assets including goodwill 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. 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. In recent periods, we have recorded impairments associated with property and equipment, identifiable intangible assets and goodwill, as further described in the accompanying consolidated financial statements. We believe that the estimates and assumptions used in our impairment assessments are reasonable. However, if market conditions change dramatically, as seen during early 2020 as a result of the COVID-19 pandemic, 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 more 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 is established when it is more likely than not that some portion or all the deferred tax assets will not be realized.

We have incurred operating losses during each of the years ended December 31, 2021, 2020 and 2019. We have applied valuation allowances to reduce our deferred tax assets as of December 31, 2021 and 2020, 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. For example, during 2020, we received a favorable judgement associated with a Repeat Precision litigation matter which resulted in a gain on patent infringement settlement of \$25.7 million.

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").

Emerging Growth Company and Smaller Reporting Company Status

We are an "emerging growth company" as defined in the Jumpstart Our Business Startups Act of 2012 (the "JOBS Act"). We will remain an emerging growth company until the earlier of (i) the last day of our fiscal year (a) following the fifth anniversary of the completion of our IPO, (b) in which we have total annual gross revenue of at least \$1.07 billion, or (c) in which we are deemed to be a

large accelerated filer, which means the market value of our common stock that is held by non-affiliates exceeds \$700.0 million as of the last business day of our most recently completed second fiscal quarter, and (ii) the date on which we have issued more than \$1.0 billion in non-convertible debt securities during the prior three-year period. Additionally, we are also 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 an emerging growth company and 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 those classifications.

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. We have seen an increase in these risks and related uncertainties with increased volatility in oil and gas prices and the financial markets as a result of the COVID-19 pandemic.

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 commodity 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, 2021, 2020 and 2019, approximately 62%, 45% and 42%, 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 jurisdictions outside of North America, including countries that occasionally experience periods of significant inflation, which occurred in Argentina in 2019, 2020 and 2021. We do not currently intend to hedge our future exposure to the Argentine Peso or other foreign currencies.

Interest Rate Risk

We are primarily exposed to interest rate risk through our Senior Secured Credit Facility, which was amended on August 6, 2020. As of December 31, 2021, we had no outstanding indebtedness under our Senior Secured Credit Facility.

Borrowings under the Senior Secured Credit Facility may 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 Amended Credit Agreement). Such advances bear interest at the Adjusted Base Rate or at the Eurocurrency Rate (each as defined in the Amended Credit Agreement) plus an applicable interest margin between 2.75% and 3.75%, depending on NCS's leverage ratio. The applicable interest rate at December 31, 2021 was 3.5%.

Credit Risk

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

INDEX TO FINANCIAL STATEMENTS

	Page
CONSOLIDATED FINANCIAL STATEMENTS	_
Report of Independent Registered Public Accounting Firm – Grant Thornton LLP (PCAOB ID Number 248)	53
Report of Independent Registered Public Accounting Firm – PricewaterhouseCoopers LLP (PCAOB ID Number 238)	54
Consolidated Balance Sheets as of December 31, 2021 and 2020	55
Consolidated Statements of Operations for the Years Ended December 31, 2021, 2020 and 2019	56
Consolidated Statements of Comprehensive Loss for the Years Ended December 31, 2021, 2020 and 2019	57
Consolidated Statements of Changes in Stockholders' Equity for the Years Ended December 31, 2021, 2020 and 2019	58
Consolidated Statements of Cash Flows for the Years Ended December 31, 2021, 2020 and 2019	59
Notes to Consolidated Financial Statements	60

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

Basis for opinion

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

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

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

/s/ GRANT THORNTON LLP

We have served as the Company's auditor since 2021.

Houston, Texas March 8, 2022

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of NCS Multistage Holdings, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheet of NCS Multistage Holdings, Inc. and its subsidiaries (the "Company") as of December 31, 2020 and the related consolidated statements of operations, of comprehensive loss, of changes in stockholders' equity and of cash flows for each of the two years in the period ended December 31, 2020, including the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2020, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2020 in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's consolidated 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 of these consolidated financial statements 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 consolidated financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting, Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated 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 consolidated 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 consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ PricewaterhouseCoopers LLP Houston, Texas March 8, 2021

We served as the Company's auditor from 2013 to 2021, which includes periods before the Company became subject to SEC reporting requirements.

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

	Г	ecember 31, 2021		December 31, 2020
Assets				
Current assets				
Cash and cash equivalents	\$	22,168	\$	15,545
Accounts receivable—trade, net		24,392		21,925
Inventories, net		33,917		34,871
Prepaid expenses and other current assets		3,290		2,975
Other current receivables		4,726		8,358
Total current assets		88,493		83,674
Noncurrent assets				
Property and equipment, net		24,708		24,435
Goodwill		15,222		15,222
Identifiable intangibles, net		5,744		6,413
Operating lease assets		4,809		5,170
Deposits and other assets		3,113		3,559
Deferred income taxes, net		236		205
Total noncurrent assets		53,832	_	55,004
Total assets	\$	142,325	\$	138,678
Liabilities and Stockholders' Equity				
Current liabilities				
Accounts payable—trade	\$	7,502	\$	4,943
Accrued expenses		6,323		3,347
Income taxes payable		294		653
Operating lease liabilities		1,556		1,826
Current maturities of long-term debt		1,483		1,347
Other current liabilities		2,660		2,768
Total current liabilities		19,818		14,884
Noncurrent liabilities				•
Long-term debt, less current maturities		6,335		4,442
Operating lease liabilities, long-term		3,779		3,989
Other long-term liabilities		1,612		1,864
Deferred income taxes, net		114		13
Total noncurrent liabilities		11,840		10,308
Total liabilities		31,658		25,192
Commitments and contingencies (Note 10)		51,050		20,152
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, 2020				_
Common stock, \$0.01 par value, 11,250,000 shares authorized, 2,397,766 shares issued and 2,380,374 shares outstanding at December 31, 2021 and 2,371,992 shares issued				
		24		24
and 2,359,918 shares outstanding at December 31, 2020 Additional paid-in capital		437,022		432,801
Accumulated other comprehensive loss		(82,094)		
Retained deficit		(261,362)		(81,780) (256,628)
Treasury stock, at cost; 17,392 shares at December 31, 2021 and 12,074 shares		(201,302)		(230,020)
at December 31, 2020		(1,006)		(809)
Total stockholders' equity		92,584	_	93,608
		92,584 18,083		93,608 19,878
Non-controlling interest		110.667		
Total equity	¢.		ф	113,486
Total liabilities and stockholders' equity	\$	142,325	\$	138,678

The accompanying notes are an integral part of these consolidated financial statements. $$55\,$

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

	Year Ended December 31,					
		2021		2020		2019
Revenues						
Product sales	\$	83,223	\$	75,197	\$	145,826
Services		35,279		31,780		59,659
Total revenues		118,502		106,977		205,485
Cost of sales						
Cost of product sales, exclusive of depreciation						
and amortization expense shown below		51,897		46,647		75,081
Cost of services, exclusive of depreciation						
and amortization expense shown below	<u> </u>	18,130		16,260		32,949
Total cost of sales, exclusive of depreciation						_
and amortization expense shown below		70,027		62,907		108,030
Selling, general and administrative expenses		49,094		59,425		88,554
Depreciation		3,832		4,426		5,877
Amortization		669		1,465		4,559
Change in fair value of contingent consideration		_		_		37
Impairments				50,194		7,919
Loss from operations		(5,120)		(71,440)		(9,491)
Other income (expense)		<u> </u>		<u> </u>		
Interest expense, net		(733)		(1,796)		(1,925)
Gain on patent infringement settlement		`—		25,678		` —
Other income, net		2,054		1,729		308
Foreign currency exchange gain (loss)		283		(1,060)		(958)
Total other income (expense)		1,604		24,551		(2,575)
Loss before income tax		(3,516)		(46,889)		(12,066)
Income tax expense (benefit)		263		(7,783)		10,752
Net loss		(3,779)		(39,106)		(22,818)
Net income attributable to non-controlling interest		955		18,493		10,005
Net loss attributable to NCS Multistage Holdings, Inc.	\$	(4,734)	\$	(57,599)	\$	(32,823)
Loss per common share						<u> </u>
Basic loss per common share attributable to						
NCS Multistage Holdings, Inc.	\$	(1.98)	\$	(24.37)	\$	(14.08)
Diluted loss per common share attributable to						
NCS Multistage Holdings, Inc.	\$	(1.98)	\$	(24.37)	\$	(14.08)
Weighted average common shares outstanding			_	<u> </u>		
Basic		2,396		2,364		2,332
Diluted	_	2,396		2,364		2,332
Diffica		2,000		2,004		2,002

The accompanying notes are an integral part of these consolidated financial statements. \$56>

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

	Year Ended December 31,						
		2021		2020		2019	
Net loss	\$	(3,779)	\$	(39,106)	\$	(22,818)	
Foreign currency translation adjustments, net of tax of \$0		(314)		(969)		3,219	
Comprehensive loss		(4,093)		(40,075)		(19,599)	
Comprehensive income attributable to non-controlling interest		955		18,493		10,005	
Comprehensive loss attributable to							
NCS Multistage Holdings, Inc.	\$	(5,048)	\$	(58,568)	\$	(29,604)	

The accompanying notes are an integral part of these consolidated financial statements. $\overline{\mbox{57}}$

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

	Preferred St		Common Sto	:k	Additional Paid-In	Accumulated Other Comprehensive	Retained	Treasury S		Non- controlling	Total Stockholders'
Balances as of	Shares Am	ount	Shares A	mount	Capital	Loss	Deficit	Shares	Amount	Interest	Equity
December 31, 2018	1 \$		2,255,038 \$	22 \$	411,852	\$ (84,030) \$	(166,206)	(1,415) \$	(337) \$	14,930 \$	176,231
Share-based	1 ф		2,233,030 \$	22 J	411,032	\$ (04,030) \$	(100,200)	(1,413) \$	(337) \$	14,550 ‡	1/0,231
compensation	_	_	_		12,204	_	_	_	_	_	12,204
Net (loss) income	_	_	_	_	12,204	_	(32,823)	_	_	10,005	(22,818)
Distribution to							(52,625)			10,000	(22,010)
noncontrolling											
interest	_		_	_	_	_	_	_	_	(6,000)	(6,000)
Vesting of restricted										* '	
stock	_	_	10,320	_	_	_	_	_	_	_	_
Shares withheld	_	_	_	_	_	_	_	(3,218)	(315)	_	(315)
Cemblend exchangeable											
shares	(1)	_	66,347	1	(1)	_	_	_	_	_	
Proceeds from the											
issuance of ESPP shares			13,584		1,024						1,024
Currency translation		_	13,584		1,024	_					1,024
adjustment						3,219					3,219
Balances as of						3,213					3,213
December 31, 2019	— \$	_	2,345,289 \$	23 \$	425,079	\$ (80,811) \$	(199,029)	(4,633) \$	(652) \$	18.935 \$	163,545
Share-based	*		2,5 .5,265 \$	20 0	123,073	ψ (00,011) ψ	(100,020)	(1,000)	(002) \$	10,000 4	100,010
compensation	_	_	_	_	7,723	_	_	_	_	_	7,723
Net (loss) income	_	_	_	_	_	_	(57,599)	_	_	18,493	(39,106)
Distribution to											
noncontrolling											
interest	_	_	_	_	_	_	_	_	_	(17,550)	(17,550)
Exercise of stock											
options	_		675			_	_	_	_	_	_
Vesting of restricted			20.020	1	(1)						
stock Shares withheld	_	_	26,028	1	(1)	_	_	(7,441)	(157)	_	(157)
Currency translation								(7,441)	(137)		(137)
adjustment	_	_	_			(969)	_	_	_	_	(969)
Balances as of					_	(505)					(505)
December 31, 2020	— \$		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										(2.750)	(2.750)
interest	_	_	_	_	_	_	_	_	_	(2,750)	(2,750)
Vesting of restricted stock			25,774								
Shares withheld			25,774		_	_	_	(5,318)	(197)		(197)
Currency translation		_			_	_	_	(3,310)	(137)	_	(137)
adjustment	_	_	_		_	(314)	_	_	_	_	(314)
Balances as of											
December 31, 2021	<u> </u>		2,397,766 \$	24 \$	437,022	\$ (82,094) \$	(261,362)	(17,392) \$	(1,006) \$	18,083 \$	110,667

The accompanying notes are an integral part of these consolidated financial statements. $58\,$

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

		Voor En	ded December 31,			
	2021	Tear En	2020		2019	
Cash flows from operating activities						
Net loss	\$ (3,779)	\$	(39,106)	\$	(22,818)	
Adjustments to reconcile net loss to net cash			•		,	
provided by operating activities:						
Depreciation and amortization	4,501		5,891		10,436	
Impairments	_		50,194		7,919	
Amortization of deferred loan cost	281		296		312	
Share-based compensation	6,621		8,482		12,542	
Provision for inventory obsolescence	1,754		1,820		895	
Deferred income tax expense (benefit)	96		(3,202)		9,000	
Gain on sale of property and equipment	(378)		(592)		(312)	
Write-off of deferred loan costs	_		606		_	
Gain on patent infringement settlement			(25,678)		_	
Change in fair value of contingent consideration					37	
Provision for doubtful accounts	(129)		750		3,500	
Net proceeds from patent infringement settlement	_		21,370			
Payment of contingent consideration			_		(3,042)	
Proceeds from note receivable	281		302		_	
Changes in operating assets and liabilities:						
Accounts receivable—trade	(2,558)		19,250		4,735	
Inventories, net	(939)		3,241		(7,639)	
Prepaid expenses and other assets	(437)		(3,022)		488	
Accounts payable—trade	2,843		(3,170)		2,580	
Accrued expenses	3,000		(105)		(681)	
Other liabilities	(3,247)		534		(1,606)	
Income taxes receivable/payable	 3,673		(2,744)		1,603	
Net cash provided by operating activities	 11,583		35,117		17,949	
Cash flows from investing activities	(40=)		(0.000)		(0.100)	
Purchases of property and equipment	(495)		(2,098)		(6,123)	
Purchase and development of software and technology	(338)		(55)		(251)	
Proceeds from sales of property and equipment	 389		1,094		1,372	
Net cash used by investing activities	 (444)		(1,059)		(5,002)	
Cash flows from financing activities						
Equipment note borrowings			_		835	
Payments on equipment note and finance leases	(1,318)		(1,513)		(5,021)	
Revolver and line of credit borrowings	360		5,000			
Payments on revolver and line of credit	(360)		(15,000)		(10,000)	
Payment of deferred loan cost related to senior secured credit facility	_		(553)		(871)	
Payment of contingent consideration					(6,958)	
Treasury shares withheld	(197)		(157)		(315)	
Distribution to non-controlling interest	(2,750)		(17,550)		(6,000)	
Proceeds from the issuance of ESPP shares	 				1,024	
Net cash used by financing activities	 (4,265)		(29,773)		(27,306)	
Effect of exchange rate changes on cash and cash equivalents	 (251)		17		471	
Net change in cash and cash equivalents	6,623		4,302		(13,888)	
Cash and cash equivalents beginning of period	 15,545		11,243		25,131	
Cash and cash equivalents end of period	\$ 22,168	\$	15,545	\$	11,243	
Supplemental cash flow information						
Cash paid for interest, net of amounts capitalized	\$ 423	\$	929	\$	1,070	
Cash paid for income taxes (net of refunds)	(3,528)		(1,924)		122	
Noncash investing and financing activities						
Return of vehicles under finance lease	\$ (187)	\$	(798)	\$	_	
Leased assets obtained in exchange for new finance lease liabilities	3,712		5,305		1,383	
Leased assets obtained in exchange for new operating lease liabilities	2,000		2,572		328	
Changes in accounts payable related to capital expenditures	6		(184)		(599)	

The accompanying notes are an integral part of these consolidated financial statements. $\overline{\mbox{59}}$

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 completions and field development strategies. We offer our products and services primarily to exploration and production companies for use in onshore 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 Stavanger, Norway.

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, because NCS has a controlling voting interest. The other party's ownership is presented separately as a non-controlling interest.

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 disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. 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"), an infectious disease caused by severe acute respiratory syndrome coronavirus 2, has spread globally. The World Health Organization declared the COVID-19 outbreak a public health emergency of international concern on January 30, 2020 and a pandemic on March 11, 2020.

As the impact of the pandemic continues to evolve, estimates and assumptions about future events and their effects cannot be determined with certainty and therefore require judgment. These estimates and assumptions may change in future periods and will be recognized in the consolidated financial information as new events occur and additional information becomes known. 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 the significant foreign subsidiaries have been translated into USD at average exchange rates prevailing during the period. Assets and liabilities have been translated at the rates of exchange on the consolidated 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) income, 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 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 Revenues

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. In applying the output method at the end of a quarter, we confirm there is no material work in progress omitted from the measurement of the output. 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 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

For the year ended December 31, 2020, we recognized revenue from one customer totaling \$10.2 million, which was more than 10% of total revenue. No single customer individually accounted for 10% or more of our consolidated revenue during 2021 or 2019. One customer accounted for 11%, 12% and 10% of our trade accounts receivable balance as of December 31, 2021, 2020 and 2019, respectively.

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 and 2020, we have recorded \$0.1 million and \$0.6 million, respectively, in our allowance for doubtful accounts.

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 intangible assets during the years ended December 31, 2021 and 2019. For the year ended December 31, 2020, we recognized an impairment charge of \$50.2 million related to property and equipment and identifiable intangible assets. See "Note 6. Property and Equipment" and "Note 7. Goodwill and Identifiable Intangibles" included herewith for further information related to these charges.

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 one or more of our reporting units is greater than its 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 is greater than its 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 fair value of the reporting unit and comparing this value with the carrying value of the reporting unit. We also have the option to bypass the qualitative assessment for any reporting unit in any period and proceed directly to performing 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 requires the use of estimates, assumptions and judgment. The principal estimates and assumptions that we use include revenue growth, operating margins, capital expenditures, future market conditions, weighted average costs of capital, a terminal growth rate, the set of comparable companies utilized, and the earnings metrics and multiples utilized. We believe that the estimates and assumptions used in impairment assessments are reasonable. If the fair value of the reporting unit is less than the carrying amount, an impairment charge is recorded in the amount of the difference. No impairment charge was recorded for the years ended December

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 periods):

	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 fair value of acquired intangible assets.

Costs related to the acquisition, other than those associated with the issuance of debt or equity securities, that we incur in connection with a business combination 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. Deferred loan costs are amortized to interest expense using the effective interest method. Certain costs incurred in the development of internal-use software applications are capitalized and 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.

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 taxes by prescribing the minimum recognition threshold an 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-Based Compensation

We account for our stock-based compensation awards in accordance with ASC 718, Compensation—Stock Compensation ("ASC 718"). 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.

We also have an Employee Stock Purchase Plan (the "U.S. ESPP") and an employee stock purchase plan specifically applicable to non-U.S. employees on substantially the same terms as the ESPP (the "Non-U.S. ESPP" and together with the U.S. ESPP, the "ESPP"), which allows eligible employees to purchase shares of our common stock. The purchase price of the stock is 85% of the lower of the stock price at the beginning or end of the plan period. The fair value of the employees' purchase rights under the ESPP is also estimated using the Black-Scholes model. The ESPP was suspended for future offering periods beginning on July 1, 2019.

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.

Severance and Other Termination Benefits

We accrue one-time severance costs pursuant to an approved workforce reduction plan at the communication date, when affected employees have been notified of the potential severance and sufficient information has been provided for the employees to calculate severance benefits, in the event the employee is involuntarily terminated. During 2020, we recorded \$5.7 million of severance expense associated with one-time severance cost, of which a liability of \$0.7 million remained as of December 31, 2020. We paid our obligations pursuant to this severance and other termination benefits liability as of April 2021, and we did not incur any additional significant severance or termination benefits related to these workforce reductions during the year ended December 31, 2021.

Earnings Per Share

Basic income 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, unvested RSUs and PSUs and purchases under the ESPP, 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 engaging third parties to perform development activities under our coordination and management as well as through the utilization of our employees to create and develop new ideas and products. We incurred approximately \$2.1 million, \$1.9 million and \$2.8 million in research and development costs for the years ended December 31, 2021, 2020 and 2019, 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. These customer reimbursements are treated as a reduction of research and development costs included in SG&A expenses.

Recent Accounting Pronouncements

Pronouncements Adopted in 2021

In March 2020, the FASB issued Accounting Standards Update ("ASU") No. 2020-04, *Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting.* The ASU provides optional guidance for a limited period of time to ease the potential burden in accounting for contracts, hedging relationships, and other transactions affected by the discontinuation of the London Interbank Offered Rate ("LIBOR") or other interest rates used globally that could be discontinued. The amendments are effective for all entities as of March 12, 2020 through December 31, 2022. We adopted ASU No. 2020-04 on January 1, 2021, with no material impact on our consolidated financial statements.

In December 2019, the FASB issued ASU No. 2019-12, Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes, which is intended to simplify various aspects related to accounting for income taxes. ASU No. 2019-12 removes certain exceptions to the general principles in Topic 740 and clarifies and amends existing guidance to improve consistent application. For public entities, this guidance became effective for fiscal years beginning after December 15, 2020, including interim periods within those fiscal years. We adopted ASU No. 2019-12 on a prospective basis on January 1, 2021, with no material impact on our consolidated financial statements.

Pronouncements Not Yet Effective

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 is effective for fiscal years beginning after December 15, 2021 and should be applied either prospectively or retrospectively. Early adoption is permitted. We are currently evaluating the impact of the adoption of this guidance.

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 rather 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 Securities and Exchange Commission ("SEC") filers, except for entities who are deemed smaller reporting companies ("SRC"). 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 are currently evaluating the impact of the adoption of this guidance.

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 18. 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 includes the current contract liabilities as of December 31, 2021, 2020 and 2019 (in thousands):

Balance at December 31, 2019	\$ 59
Additions	_
Revenue recognized	(8)
Balance at December 31, 2020	\$ 51
Additions	1,056
Revenue recognized	(1,036)
Balance at December 31, 2021	\$ 71

We currently do not have any contract assets or non-current contract liabilities. Our contract liability as of December 31, 2021 and 2020 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 \$1.0 million, \$8 thousand and \$0.6 million for the years ended December 31, 2021, 2020 and 2019, respectively.

Contracts with Multiple Performance Obligations

Approximately 99% of our product and services revenues are considered a single performance obligation. Our self-service product line, which is approximately one percent of our revenue for the years ended December 31, 2021, 2020 and 2019 is made up 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 standalone prices in the customer order. The transaction prices for our self-service product line that have two performance obligations are (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, 2021 and 2020 (in thousands):

	 December 31, 2021	December 31, 2020
Raw materials	\$ 1,844	\$ 1,752
Work in process	14	287
Finished goods	32,059	32,832
Total inventories, net	\$ 33,917	\$ 34,871

Note 5. Other Current Receivables

Other current receivables consist of the following as of December 31, 2021 and 2020 (in thousands):

]	December 31, 2021	December 31, 2020
Current income tax receivables	\$	2,226	\$ 6,295
Employee receivables		238	544
Other receivables		2,262	1,519
Total other receivables, net	\$	4,726	\$ 8,358

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, 2021 includes the U.S. employee retention credit ("ERC") claims we have filed but for which we have not yet received renumeration, as well as \$0.7 million 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. The other receivables balance as of December 31, 2020 includes \$1.2 million due from SOS.

Note 6. Property and Equipment

Property and equipment by major asset class consist of the following as of December 31, 2021 and 2020 (in thousands):

	December 31, 2021	December 31, 2020
Land	\$ 1,701	\$ 1,695
Building and improvements	8,099	8,511
Machinery and equipment	18,152	18,211
Computers and software	2,256	2,374
Furniture and fixtures	1,037	1,150
Vehicles	313	442
Right of use assets - finance leases	10,228	8,020
Service equipment	244	244
	42,030	40,647
Less: Accumulated depreciation and amortization	(17,752)	(16,312)
	24,278	24,335
Construction in progress	430	100
Property and equipment, net	\$ 24,708	\$ 24,435

The following table presents the depreciation expense associated with the following income statement line items for the years ended December 31, 2021, 2020 and 2019 (in thousands):

			Year E	nded December 31,	
	·	2021		2020	2019
Cost of sales					
Cost of product sales	\$	1,399	\$	1,679	\$ 2,711
Cost of services		691		1,043	1,266
Selling, general and administrative expenses		1,742		1,704	1,900
Total depreciation	\$	3,832	\$	4,426	\$ 5,877

The table above includes depreciation expense associated with land and three buildings in addition to vehicles for our transportation fleet acquired through finance leases. See "Note 15. 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, 2021 and 2019, and accordingly no impairment loss was recorded.

During the first quarter of 2020, we performed an impairment analysis to assess the recoverability of the carrying values for our property and equipment because we determined that a triggering event had occurred. Evidence that led to a triggering event included the industry conditions, such as a reduction in global economic growth expectations, a significantly reduced demand for crude oil and

refined products, the significant decline in commodity prices and the corresponding impact on future expectations of demand for our products and services primarily related to the COVID-19 pandemic as well as the resulting decline in the quoted price of our common stock. As a result of the analysis, we recorded an impairment charge of \$9.7 million in our property and equipment, primarily related to our land, building and improvements and machinery and equipment, to the extent the carrying value exceeded the estimated fair value as of March 31, 2020. We did not identify any triggering events after March 31, 2020 through December 31, 2020 that required further impairment testing. Therefore, we did not record any impairment charges after March 31, 2020.

Note 7. Goodwill and Identifiable Intangibles

Changes in the carrying amount of goodwill are as follows (in thousands):

	D	ecember 31, 2021	Ι	December 31, 2020
Gross value	\$	177,162	\$	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. 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 one or more of our reporting units is greater than its 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 is greater than the 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 fair value of the reporting unit and comparing the fair value with the carrying amount of the reporting unit. If the fair value of the reporting unit is less than the carrying value, an impairment loss is recorded in the amount of that difference. We also have the option to bypass the qualitative assessment for any reporting unit in any period and proceed directly to performing the quantitative goodwill impairment test. All goodwill impairment charges are included in "Impairments" in the consolidated statements of operations. See "Note 2. Summary of Significant Accounting Policies" for additional information.

As of December 31, 2021 and 2020, 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, 2021 and 2020.

During the second quarter of 2019, we performed an impairment analysis for goodwill using the quantitative method. Evidence of an indication of impairment included further deterioration in customer activity levels in North America, which resulted in lower demand for oilfield services driving a decrease in our market share and increased customer and competitor-driven pricing pressures in addition to a decline in the quoted price of our common stock. We determined that the carrying value of one of our reporting units exceeded its fair value and we recorded an impairment charge of \$7.9 million for our tracer diagnostic services reporting unit Following the impairment, our tracer diagnostic services reporting unit had no remaining goodwill balance. We had one other reportable unit, Repeat Precision, with a goodwill balance at December 31, 2019. We performed a qualitative assessment and determined that Repeat Precision's goodwill balance of \$15.2 million was not impaired, as the fair value exceeded the net carrying value. Therefore, no impairment was required for this reportable unit for the year ended December 31, 2019.

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

			December 31, 2021				
	Estimated Useful Lives (Years)		Gross Carrying Amount		Accumulated Amortization		Net 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		<u> </u>		48
Total identifiable intangibles		\$	8,106	\$	(2,362)	\$	5,744
	68	<u>-</u>			·		

		December 31, 2020					
	Estimated Useful Lives (Years)		Gross Carrying Amount		Accumulated Amortization		Net Balance
Technology	1 - 20	\$	3,958	\$	(87)	\$	3,871
Customer relationships	10		4,100		(1,606)		2,494
Total amortizable intangible assets		\$	8,058	\$	(1,693)	\$	6,365
Technology - not subject to amortization	Indefinite		48				48
Total identifiable intangibles		\$	8,106	\$	(1,693)	\$	6,413

We did not incur costs to renew or extend the term of acquired intangible assets during the year ended December 31, 2021. In December 2020, we recognized a \$3.8 million intangible asset related to the transfer of the U.S. Patent No. 9,810,035 (the "'035 Patent") from Diamondback Industries, Inc. ("Diamondback") to Repeat Precision in connection with a litigation settlement. See "Note 10. Commitments and Contingencies" for additional information. Substantially all identifiable intangibles as of December 31, 2021 and 2020 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" for additional information. There were no impairment charges recorded for our identifiable intangibles for the years ended December 31, 2021 or 2019.

As discussed in "Note 6. Property and Equipment," on March 31, 2020, we identified a triggering event which indicated potential impairment. We evaluated our intangible assets for impairment and determined that the carrying values of certain intangible assets were no longer recoverable, which resulted in an impairment charge of \$11.9 million in the asset group that includes fracturing systems and well construction related to technology and internally-developed software and an impairment charge of \$28.6 million in our tracer diagnostics asset group related to customer relationships, technology, internally developed software and trademarks, each recorded on March 31, 2020. Following the impairment charges in the first quarter of 2020, we had no remaining identifiable intangible balances in the asset group that includes our fracturing systems and well construction or our tracer diagnostics asset group. There were no impairment charges recorded for our identifiable intangibles for the remainder of the year ended December 31, 2020.

Total amortization expense, which is associated with selling, general and administrative expenses on the consolidated statements of operations, was \$0.7 million, \$1.5 million and \$4.6 million for the years ended December 31, 2021, 2020 and 2019, respectively.

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

2022 2023 2024 2025	\$ 669
2023	669
2024	669
2025	669
2026	669
Thereafter	2,351
Total	\$ 5,696

Note 8. Accrued Expenses

Accrued expenses consist of the following as of December 31, 2021 and 2020 (in thousands):

	1	December 31, 2021	December 31, 2020
Accrued payroll and bonus	\$	4,208	\$ 999
Property and franchise taxes accrual		550	505
Severance and other termination benefits (Note 11)		_	730
Accrued other miscellaneous liabilities		1,565	1,113
	\$	6,323	\$ 3,347

Note 9. Debt

Our long-term debt consists of the following as of December 31, 2021 and 2020 (in thousands):

	D	ecember 31, 2021	December 31, 2020
Senior Secured Credit Facility	\$		\$ _
Finance leases		7,818	5,789
Total debt		7,818	5,789
Less: current portion		(1,483)	(1,347)
Long-term debt	\$	6,335	\$ 4,442

The estimated fair value of total debt for the years ended December 31, 2021 and 2020 was \$7.5 million and \$5.6 million, respectively. The fair value for 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 credit agreement and other financing arrangements.

Senior Secured Credit Facility

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

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

The Senior Secured Credit Facility consists of a senior secured revolving credit facility in an aggregate principal amount of \$25.0 million made available to the U.S. Borrower, of which up to \$2.5 million may be made available for letters of credit and up to \$2.5 million may be made available for swingline loans. The Canadian Borrower may make borrowings under the Senior Secured Credit Facility, subject to a \$15.0 million sublimit. Total borrowings available to the Borrowers under the Senior Secured Credit Facility may be limited subject to a borrowing base calculated on eligible receivables, which does not include receivables at Repeat Precision. Our borrowing base under the Senior Secured Credit Facility as of December 31, 2021 was \$15.4 million. The Senior Secured Credit Facility will mature on May 1, 2023. As of December 31, 2021 and 2020, we had no outstanding indebtedness under the Senior Secured Credit Facility, and we utilized letter of credit commitments of less than \$0.1 million.

Borrowings under the Senior Secured Credit Facility may 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 Amended Credit Agreement). Such advances bear interest at the Adjusted Base Rate or at the Eurocurrency Rate (each as defined in the Amended Credit Agreement) plus an applicable interest margin between 2.75% and 3.75%, depending on our leverage ratio. The applicable interest rate at December 31, 2021 was 3.5%. We incurred interest expense related to the Senior Secured Credit Facility, including commitment fees, of \$0.1 million, \$0.6 million and \$0.7 million for the years ended December 31, 2021, 2020 and 2019, respectively.

The obligations of the Borrowers under the Senior Secured Credit Facility are 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 are 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.

The Amended Credit Agreement requires us to (i) maintain liquidity (defined as availability under the Senior Secured Credit Facility plus certain cash deposits) of at least \$7.5 million as of the date of each borrowing base certificate due to be delivered either monthly (if availability is greater than or equal to 12%) or weekly (if availability is less than 12%) thereunder, (ii) maintain, for quarters during which availability is less than 20% of the borrowing base, a fixed charge coverage ratio of at least 1.0 to 1.0 and (iii) on the last business day of each week, prepay advances to the extent that available cash exceeds \$12.0 million. As of December 31, 2021, we were in compliance with these financial covenants. The Amended 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 Amended 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 Amended 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 Amended Credit Agreement also have the right upon an event of default thereunder to terminate any commitments to provide further borrowings and to proceed against the collateral securing the Senior Secured Credit Facility.

We capitalized direct costs of \$1.2 million in connection with the Senior Secured Credit Facility and our prior credit facility, which were being amortized over the term of the Senior Secured Credit Facility using the straight-line method. The Amendment reduced the overall potential capacity under the Amended Credit Agreement from \$75.0 million to \$25.0 million. Therefore, we expensed \$0.6 million of deferred loan costs during the third quarter of 2020, which was commensurate with the reduction in potential capacity. We capitalized new deferred loan costs associated with the Amendment totaling \$0.6 million, which is being amortized over the remaining term of the facility. Amortization expense of the deferred financing charges was included in interest expense, net of \$0.3 million for each of the years ended December 31, 2021 and 2020, respectively, and \$0.2 million for the year ended December 31, 2019.

Promissory Note

On February 27, 2017, Repeat Precision entered into a promissory note with Security State Bank & Trust, Fredericksburg. The note bears interest at a variable interest rate based on prime plus 1.00%. The promissory note is collateralized by certain equipment, inventory and receivables. The promissory note was renewed on February 16, 2018 for an aggregate borrowing capacity of \$4.3 million and continues to be renewed on an annual basis. The note is currently scheduled to mature on February 11, 2023. 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, 2021 and 2020, Repeat Precision had no outstanding indebtedness under the promissory note.

On April 30, 2020, Repeat Precision entered into a promissory note with Security State Bank & Trust, Fredericksburg, for an aggregate borrowing capacity of \$5.0 million. The note bore interest at a variable interest rate based on prime plus 1.00%. The promissory note was collateralized by certain equipment and inventory. Total borrowings were potentially limited subject to a borrowing base calculation, which included a portion of Repeat Precision's eligible receivables, inventory and equipment. As of December 31, 2020, Repeat Precision had no outstanding indebtedness under the promissory note. The note matured on April 30, 2021 and no payment was due.

Finance Leases

Finance leases include two buildings in Odessa, Texas and a laboratory in Tulsa, Oklahoma. 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 15. 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 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 would have a material adverse effect on our financial position, results of operations or cash flows.

Patent Infringement Settlement

On April 3, 2020, the United States District Court for the Western District of Texas, Waco Division issued a final judgment in connection with the litigation with Diamondback awarding Repeat Precision approximately \$39.9 million (the "Award") plus attorneys' fees in connection with its breach of exclusive license, patent infringement of the '035 Patent and tortious interference claims. In addition, in April 2020, we received \$1.1 million of proceeds from our directors and officers liability insurance related to the reimbursement of legal expenses that we incurred to defend a director and officer in the Diamondback litigation. On April 21, 2020, Diamondback filed for Chapter 11 bankruptcy protection which stayed collection efforts.

In October 2020, we entered into an agreement to settle the Award, which was effectuated through a Chapter 11 plan of reorganization that was filed by Diamondback that became effective on December 10, 2020. On the effective date, in connection with Repeat Precision releasing Diamondback and Derrek Drury ("Drury") from the monetary damages in the Award and certain other claims, Repeat Precision received: (i) an upfront cash payment of approximately \$15.5 million, (ii) the transfer of the '035 Patent from Diamondback to Repeat Precision, (iii) payments for future sales of certain setting tool sold by Diamondback or its successor as restitution, until \$5.0 million has been paid in total, and (iv) a note from Drury payable in two years, which was paid off prior to year-end 2020, in the principal amount of \$5.0 million. Repeat Precision and another claimant in the Diamondback bankruptcy have also agreed to provide mutual releases of all claims in exchange for consideration received by Repeat Precision. As of December 31, 2020, we recorded a \$25.7 million gain on a patent infringement settlement in our consolidated financial statements related to this gain contingency, which also included the \$1.1 million of proceeds from our directors and officers liability insurance mentioned above and is net of related legal fees incurred in 2020 of \$2.7 million. During the year ended December 31, 2021, we have received less than \$0.1 million of preference claims related to this patent infringement settlement which are included as other income, net in the accompanying consolidated statements of operations.

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-cash 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 audit 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 and \$1.1 million, subject to withholding tax of \$0.1 million for each of the years ended December 31, 2021 and 2020, respectively. 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 and 2020, we have recorded tracer diagnostics services revenue of \$0.9 million and \$1.6 million, respectively, and other income, net totaling \$0.5 million and \$0.9 million, respectively, related to this agreem

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 include: the Coronavirus Aid, Relief, and Economic Security Act (the "CARES Act") enacted in March 2020, the Taxpayer Certainty and Disaster Tax Relief Act of 2020 enacted in December 2020, the American Rescue Plan Act of 2021 enacted in March 2021, and the Infrastructure Investment and Jobs Act enacted in November 2021. These laws 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 reduce the employer's portion of social security tax.

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 is included in cost of sales and \$2.3 million is included in general and administrative expenses in the accompanying consolidated statements of operations. The refundable tax credits include \$0.5 million pertaining to Repeat Precision, of which \$0.1 million is associated with credits earned for activity in 2020. Of the aggregate credits

claimed during 2021, we received \$2.1 million and have included \$1.1 million in other current receivables on our consolidated balance sheet as of December 31, 2021.

Note 11. Severance and Other Termination Benefits

During 2020, we implemented various workforce reductions resulting in the termination of approximately 190 employees, temporary furloughs for certain employees and lower compensation levels for executives and employees not participating in furloughs in response to the decrease in crude oil pricing, customer capital spending plans and activity as a result of the decline in market conditions primarily related to the COVID-19 pandemic and reduced demand for oil. In connection with these reductions in workforce and executive departures, we incurred \$5.7 million in one-time severance costs, which were recorded in the consolidated statements of operations under general and administrative expenses for the year ended December 31, 2020. We did not incur any significant severance or termination benefits related to these workforce reductions during the year ended December 31, 2021.

Below is a reconciliation of the beginning and ending liability balance (in thousands):

Balance at December 31, 2019	\$ _
Additions for costs expensed	5,661
Severance payments	(4,969)
Currency translation adjustment	38
Balance at December 31, 2020	\$ 730
Severance payments	(730)
Balance at December 31, 2021	\$ _

We paid our obligations pursuant to this severance and other termination benefits liability as of April 2021.

Note 12. Stockholders' Equity

Reverse Stock Split

In connection with our efforts to regain compliance with the minimum price per share criteria for continued listing set forth in Nasdaq Listing Rule 5450(a)(1), on December 1, 2020, we effected a reverse stock split of our issued and outstanding common stock in a ratio of 1-for-20 (the "reverse stock split"). The par value of the common and preferred stock was not adjusted as a result of the stock split. On October 27, 2020, funds affiliated with Advent International Corporation, who beneficially held an aggregate 29,568,536 shares on a pre-split basis as of the record date of the reverse stock split, or approximately 62.6% of our shares of common stock, executed and delivered to our board of directors (our "Board") a written consent approving the proposal to effect a reverse stock split of our issued and outstanding common stock, with a ratio of 1-for-20, and to reduce the number of authorized shares of our common stock by the same ratio as the reverse stock split. Our Board also approved the above reverse stock split and authorized share reduction on October 27, 2020.

Our common stock began trading on Nasdaq on a split-adjusted basis when the market opened on December 1, 2020. The reverse stock split resulted in a reduction of the number of publicly held shares of NCS below the minimum 750,000 publicly held shares requirement set forth in Nasdaq Listing Rule 5450(b)(1)(B) and thus NCS applied to transfer its securities to the Nasdaq Capital Market on December 17, 2020, which was approved on December 22, 2020, with the transfer occurring at the opening of business on December 24, 2020. We believe that this transfer to the Nasdaq Capital Market has not significantly impacted the trading of our common stock. The Capital Market is a continuous trading market that operates in substantially the same manner as the Global Select Market.

Authorized and Outstanding Shares

On December 1, 2020, our certificate of incorporation was amended and the number of shares of common stock authorized to be issued was decreased from 225,000,000 to 11,250,000. The number of our authorized shares of preferred stock remained 10,000,000 shares. As of December 31, 2021 and 2020, 2,380,374 and 2,359,918 shares of common stock were outstanding, respectively.

Voting

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 Senior Secured Credit Facility. No dividends were declared during the periods ended December 31, 2021 or December 31, 2020.

Note 13. Share-Based Compensation

Equity Incentive Plans

We maintain two equity incentive plans for the benefit of our employees, directors and other service providers: our 2012 Equity Incentive Plan (the "2012 Plan") and our 2017 Equity Incentive Plan (the "2017 Plan"). The following is a summary of certain features of the 2012 Plan and the 2017 Plan.

2012 Plan

The 2012 Plan provided awards to our employees, directors and consultants. We no longer grant awards under the 2012 Plan. The 2012 Plan is administered by the Compensation, Nominating and Governance Committee of our Board. The 2012 Plan has a total of 123,175 shares authorized for issuance. Awards granted under the 2012 Plan will remain outstanding until the earlier of exercise, forfeiture, cancellation or expiration. As of December 31, 2021, there remain 97,184 options outstanding, all of which are exercisable pursuant to the 2012 Plan.

2017 Plan

The 2017 Plan replaced the 2012 Plan and 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 to us or any of our subsidiaries. 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 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, 2021, the total number of shares available for future issuance under the 2017 Plan is 320,006 shares.

Stock Options

Stock options granted under the 2012 Plan and the 2017 Plan generally vest annually in equal increments over three or five years and have a 10-year term. 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"). When we completed our initial public offering during the second quarter of 2017, the Liquidity Options were amended for 22 employees to provide that such awards will vest in three equal installments, subject to certain requirements including, as applicable, the recipient's continued employment on the vesting date.

Determining fair market value

We estimated the fair value of each option grant using the Black-Scholes option-pricing model. The Black-Scholes option pricing model requires estimates of key assumptions based on both historical information and management judgment regarding market factors and trends. Determining the appropriate fair value model and calculating the fair value of options requires 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 involve inherent uncertainties and the application of management's judgment. If factors change and different assumptions are used, our share-based compensation expense could be materially different in the future.

Expected volatility—As we were a private company prior to the second quarter of 2017, we estimated our expected volatility by using the historical volatilities of our peer group of public companies for a period equal to the expected life of the option by taking the median of the annualized weekly tenyear standard deviation of their stock prices.

Risk-free interest rate—The risk-free interest rates for options granted are based on the constant maturity Treasury bond rates whose term is consistent with the expected life of an option from the date of grant.

Expected term—As we did not have sufficient historical experience for determining the expected term of the stock option awards granted, we based our expected term for awards issued to employees on the "simplified" method under the provisions of ASC

718-10, *Compensation-Stock Compensation*. The expected term is based on the midpoint between the vesting date and contractual term of an option. The expected term represents the period that our stock-based awards are expected to be outstanding.

Expected dividend yield—We do not anticipate paying cash dividends on our shares of common stock; therefore, the expected dividend yield is assumed to be zero.

The following table summarizes stock option activity during the year ended December 31, 2021:

	Service Based	Liquidity	Total	Service Based Weighted Average Exercise	Liquidity Based Weighted Average Exercise	Service Based Weighted Average Remaining Contractual	Liquidity Weighted Average Remaining Contractual
2012 Equity Plan and 2017 Equity Plan	Options	Options	Options	Price	Price	Life (Years)	Life (Years)
Outstanding at December 31, 2020	39,502	58,582	98,084	\$ 124.20	\$ 121.07	2.11	2.07
Expired during the year	(268)	_	(268)	191.20			
Outstanding at December 31, 2021	39,234	58,582	97,816	\$ 123.74	\$ 121.07	1.12	1.07
Exercisable as of December 31, 2021	39,234	58,582	97,816	\$ 123.74	\$ 121.07	1.12	1.07

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, 2021, our outstanding and exercisable aggregate intrinsic values had no value. No options were exercised during the years ended December 31, 2021 and 2019. The total intrinsic value of options exercised during the year ended December 31, 2020 for all equity incentive plans was \$6 thousand. The income tax benefit realized from stock options exercised was \$1 thousand for the year ended December 31, 2020. As of December 31, 2021, there was no unrecognized compensation cost related to options as all outstanding options were fully vested and there have been no options granted since 2017.

Restricted Stock Units

Starting the second quarter of 2017, we began granting RSUs. We account for RSUs granted to employees at fair value on the date of grant, 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. Prior to 2019, the RSUs granted to the members of our Board generally vested on the one year anniversary of the grant date but will settle for shares of common stock following the earliest of (i) one year following the termination of the person's service for any reason other than cause, (ii) a change of control or (iii) the fifth anniversary of the grant date. Beginning in 2019, the RSUs granted to the members of our Board 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, 2021:

	Number of Awards	Average Grant Date Fair Value
Non-vested at December 31, 2020	49,031	\$ 93.11
Granted	68,598	38.41
Vested (including 12,035 shares that have not been released)	(37,809)	89.86
Forfeited	(2,897)	48.17
Non-vested at December 31, 2021	76,923	\$ 47.61

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The total value of shares vested and released was \$1.0 million, \$0.5 million and \$1.0 million during the years ended December 31, 2021, 2020 and 2019. For 2021, 2020 and 2019, the income tax benefit recognized for RSUs was \$0.2 million, \$0.1 million and \$0.2 million, respectively. As of December 31, 2021, there was \$1.6 million of total unrecognized compensation cost related to RSUs, which we expect to recognize over a weighted average period of one year.

Equivalent Stock Unit Awards

Starting 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 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.

The following table summarizes ESU activity during the year ended December 31, 2021:

	Number of Awards	Weighted Average Grant Date Fair Value
Non-vested at December 31, 2020	134,792	\$ 30.50
Granted	51,623	37.48
Vested	(47,197)	34.30
Forfeited	(6,642)	32.43
Non-vested at December 31, 2021	132,576	\$ 31.77

During the years ended December 31, 2021 and 2020, we paid \$1.8 million and \$0.2 million, respectively, upon settlement of the ESUs. As of December 31, 2021, 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 value in 2021, 2020 and 2019 were measured using a Monte Carlo simulation with the following assumptions and the resulting weighted-average grant date fair value per share:

	2021		2020	2019	
Grant date	February 28, 2021		ebruary 28, 2020	February 28	3, 2019
	January 1, 2021 to Decembe	er January	7 1, 2020 to December	January 1, 2019 to	o December
Performance period	31, 2023		31, 2022	31, 202	21
Volatility	103	5.5 %	70.7 %		63.2 %
Risk-free interest rate	0	.3 %	0.9 %		2.5 %
Expected dividends	-	— %	— %		— %
Grant date price	\$ 38.5	50 \$	21.80	\$	110.20
Weighted-average fair value per share	\$ 66.1	14 \$	26.20	\$	130.00

The following table summarizes PSU activity during the year ended December 31, 2021:

	Number of Awards	Weighted Average Grant Date Fair Value
Non-vested at December 31, 2020	70,669	\$ 53.91
Granted	17,004	66.14
Vested	_	_
Forfeited	(18,863)	130.00
Non-vested at December 31, 2021	68,810	\$ 36.07

As of December 31, 2021, there was \$1.2 million of total unrecognized compensation cost related to PSUs, which we expect to recognize over a weighted average period of one year.

Employee Stock Purchase Plan

On August 3, 2017, our Board adopted our ESPP. When adopted, there were an aggregate of 100,000 shares of our common stock reserved for issuance and sale pursuant to the ESPP. The ESPP allows eligible employees to contribute, subject to any other plan limitations including a maximum share purchase cap of 52 shares per offering period, up to 18% of their base salary, up to a maximum

of \$12.5 thousand per offering period, toward the purchase of our common stock at a discounted price. The purchase price of the shares on each purchase date is equal to 85% of the lower of the fair market value of our common stock on the first and last trading days of each offering period. The U.S. ESPP is designed to be qualified under Section 423 of the Internal Revenue Code. As of December 31, 2021, there were 86,416 shares available for issuance in the ESPP. In January 2019, we issued 7,824 shares of our common stock to our employees in connection with the settlement of the purchase of shares for the October 16, 2017 to December 31, 2018 offering period. In July 2019, we issued 5,760 shares of our common stock to our employees in connection with the settlement of the purchase of shares for the January 1, 2019 to June 30, 2019 offering period. Both of these issuances increased our common stock outstanding. The ESPP was suspended for future offering periods beginning on July 1, 2019.

The fair value of the ESPP for the January 1, 2019 to June 30, 2019 offering period was estimated using the Black-Scholes model with the following assumptions and resulting weighted-average fair value per share:

	ary 1, 2019 to me 30, 2019
Expected volatility	 82.8 %
Average risk-free interest rate	2.5 %
Expected dividends	— %
Weighted-average fair value per share	\$ 40.40

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, 2021, 2020 and 2019, respectively (in thousands):

	Year Ended December 31,					
		2021	2020			2019
Stock options	\$	6	\$	1,459	\$	5,263
Restricted stock units		2,605		3,921		5,032
Equivalent stock units		2,400		759		338
Performance stock unit awards		1,610		2,343		1,682
ESPP		_		_		227
Total share-based compensation expense	\$	6,621	\$	8,482	\$	12,542
Related income tax benefit	\$	572	\$	92	\$	157

Note 14. 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 \$53 thousand, \$0.6 million and \$1.5 million for the years ended December 31, 2021, 2020 and 2019, respectively.

Note 15. Leases

We adopted ASU No. 2016-02, *Leases* (Topic 842) effective January 1, 2019. Pursuant to this guidance, 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. Certain leases also include options to purchase the leased property. 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. As most of our leases do not provide an implicit rate, our interest rate under the senior secured revolving credit facility, adjusted on an 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 is determined to be insignificant when compared to the lease component, the lease and non-lease components are treated as a single lease component for all asset classes.

In May 2021, we renewed our laboratory lease in Tulsa, Oklahoma, which is now being treated as a finance lease. We recorded a long-term asset totaling \$0.8 million and a corresponding lease liability. We also renewed operating leases for our office and manufacturing facilities in Tulsa, Oklahoma. We recorded long-term right-of-use assets totaling approximately \$1.1 million and corresponding operating lease liabilities. These leases have a five year term through May 2026.

In August 2020, Repeat Precision entered into a build-to-suit lease agreement for a warehouse and operations facility in Odessa, Texas. In July 2021, construction was completed, and Repeat Precision began to occupy the facility. The lease is accounted for as a finance lease pursuant to which we recorded a long-term asset and corresponding liability of \$2.3 million. The lease extends for a 10-year term through June 2031.

On September 30, 2021, we extended an operating lease for a facility in Grande Prairie, Canada for an additional five year term, and on October 1, 2021, we extended an operating lease for a facility in Morgantown, West Virginia for an additional five year term. We recorded ROU assets and corresponding liabilities totaling \$0.8 million related to these lease renewals.

We also maintain a vehicle leasing arrangement with a fleet management company to lease light vehicles and trucks that meet the criteria to record as finance leases. As a cost-saving measure in response to unfavorable market conditions due to the COVID-19 pandemic, we returned many of these leased vehicles to the fleet management company for sale. For the years ended December 31, 2021 and 2020, we retired lease vehicles with net book value of \$0.2 million and \$1.2 million, respectively, and corresponding lease obligations of \$0.2 million and \$0.8 million, respectively. The surrender of these vehicles and the retirement of the related lease obligations has been included as non-cash investing and financing activities in the accompanying consolidated statements of cash flows for the years ended December 31, 2021 and 2020.

As of December 31, 2021, we have no significant leases where we are the lessor, and we do not have any additional significant operating and finance leases that have not yet commenced.

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

Leases	Consolidated Balance Sheet Classification	Ι	December 31, 2021	December 31, 2020
Assets				
Operating	Operating lease assets	\$	4,809	\$ 5,170
Finance (1)	Property and equipment, net		7,690	5,851
Total leased right-of-use assets		\$	12,499	\$ 11,021
ŭ		-		
Liabilities				
Current				
Operating	Operating lease liabilities	\$	1,556	\$ 1,826
Finance	Current maturities of long-term debt		1,483	1,347
Noncurrent				
Operating	Operating lease liabilities, long-term		3,779	3,989
Finance	Long-term debt, less current maturities		6,335	4,442
Total lease liabilities		\$	13,153	\$ 11,604

⁽¹⁾ Finance lease right-of-use assets are recorded net of accumulated amortization of \$2.5 million and \$2.2 million as of December 31, 2021 and 2020, respectively.

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

		 Year Ended December 31,				
Lease Cost	Consolidated Statements of Operations Classification	2021		2020		2019
Finance lease cost:						
Amortization of right-of-use assets	Depreciation	\$ 1,461	\$	1,503	\$	1,409
Interest on lease liabilities	Interest expense, net	327		300		257
	Cost of sales; Selling, general and administrative					
Operating lease cost	expenses	1,832		2,193		2,891
	Cost of sales; Selling, general and administrative					
Short-term lease cost	expenses	1,138		1,280		898
Total lease cost		\$ 4,758	\$	5,276	\$	5,455

Total lease expense charged to consolidated statements of operations for operating leases was \$3.0 million, \$3.5 million and \$3.8 million for the years ended December 31, 2021, 2020, and 2019, respectively.

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

Year Ending December 31,		Operating Leases		Operating Leases		Operating Leases		Finance Leases
2022	\$	1,751	\$	1,820				
2023		1,148		1,311				
2024		1,030		1,085				
2025		898		1,024				
2026		709		862				
Thereafter		339		3,055				
Total lease payments	\$	5,875	\$	9,157				
Less: interest		(540)		(1,339)				
Present value of lease liabilities	\$	5,335	\$	7,818				

Lease Term and Discount Rate	December 31, 2021	December 31, 2020
Weighted-average remaining lease term (years):		
Operating leases	4.3	4.1
Finance leases	7.0	7.2
Weighted-average discount rate:		
Operating leases	4.7 %	5.4 %
Finance leases	4.6 %	4.9 %

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

	Year Ended					
Other Information	20	21		2020		2019
Cash paid for amounts included in measurement of lease liabilities:						
Operating cash flows from operating leases	\$	2,340	\$	2,324	\$	3,278
Operating cash flows from finance leases		327		300		257
Financing cash flows from finance leases		1,408		1,634		1,705

Note 16. Income Taxes

The provision (benefit) from income taxes consists of the following for the years ended December 31, 2021, 2020 and 2019 (in thousands):

		Year Ended December 31,				
		2021		2020	2019	
Current tax expense (benefit)						
U.S. Federal	\$	37	\$	(413)	\$	(382)
State		(63)		(183)		221
Foreign		193		(3,985)		1,913
Total current	<u> </u>	167		(4,581)		1,752
Deferred tax expense (benefit)		,				
U.S. Federal	\$	_	\$	_	\$	8,746
State		_		_		580
Foreign		96		(3,202)		(326)
Total deferred		96		(3,202)		9,000
Total income taxes	\$	263	\$	(7,783)	\$	10,752

The following is the domestic and foreign components of our (loss) income before income taxes for the years ended December 31, 2021, 2020 and 2019 (in thousands):

	 Year Ended December 31,						
	2021 2020				2019		
U.S. Federal	\$ (9,775)	\$	(25,086)	\$	(13,762)		
Foreign	6,259		(21,803)		1,696		
Loss before income tax	\$ (3,516)	\$	(46,889)	\$	(12,066)		

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, 2021, 2020 and 2019:

	Year Ended December 31,				
	2021	2020	2019		
Income tax at federal statutory rate	21.0 %	21.0 %	21.0 %		
Increase (decrease) in income taxes resulting from:					
Impairment expense	— %	— %	(2.6)%		
Foreign taxes on U.S. income	(2.3)%	2.6 %	(12.1)%		
Non-controlling interest gain/losses	(0.3)%	6.7 %	15.7 %		
U.S. tax on foreign earnings	0.1 %	(1.7)%	(5.7)%		
Nondeductible expenses	(8.4)%	1.2 %	(3.7)%		
Deductible foreign taxes	4.2 %	(0.1)%	2.7 %		
Non U.S. income taxed at different rates	(4.0)%	3.2 %	(1.2)%		
Research and other tax credits	6.3 %	0.9 %	6.4 %		
Effect of rate change on deferred tax	(1.8)%	(0.7)%	1.9 %		
Stock-based compensation	(29.7)%	(2.2)%	(7.7)%		
State taxes	(1.4)%	1.1 %	4.1 %		
Change in valuation allowance	(3.4)%	(16.9)%	(108.6)%		
Other	12.2 %	1.5 %	0.7 %		
Income tax	(7.5)%	16.6 %	(89.1)%		

We recorded a tax expense (benefit) of \$0.3 million, \$(7.8) million and \$10.8 million for the years ended December 31, 2021, 2020 and 2019, respectively. For the years ended December 31, 2021, 2020 and 2019, our effective tax rate was (7.5)%, 16.6% and (89.1)%, respectively.

Included in tax expense 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.

Included in the tax benefit for the year ended December 31, 2020 were several U.S. tax expense (benefit) adjustments related to the enactment of the CARES Act, including a tax benefit of \$(0.9) million for a net operating loss carryback that was previously unavailable and a tax expense of \$6.5 million for an increase in a valuation allowance on deferred tax assets not expected to be

realized. Also included in the tax benefit for the year ended December 31, 2020 was a tax expense of \$1.4 million for a valuation allowance against our Canadian deferred tax asset, and a benefit of \$(1.5) million related to non-U.S. income taxed at different rates.

Included in tax expense for the year ended December 31, 2019 was a tax expense of \$13.1 million for a valuation allowance against our U.S. deferred tax asset as well as the tax effect of a non-deductible goodwill impairment.

The tax effects of temporary differences that give rise to significant portions of deferred tax assets and deferred tax liabilities as of December 31, 2021 and 2020 are as follows (in thousands):

		December 31,			
		2021		2020	
Deferred tax assets					
Accruals not currently deductible	\$	6,902	\$	6,579	
Depreciation and amortization		10,787		12,019	
Tax loss carryforward		2,329		1,284	
Other		2,456		2,735	
		22,474		22,617	
Valuation allowance for deferred tax assets		(22,198)		(22,312)	
Total deferred tax assets	•	276		305	
Deferred tax liabilities					
Foreign currency translation		(120)		(78)	
Other		(34)		(35)	
Total deferred tax liabilities		(154)		(113)	
Net deferred tax assets (liabilities)	\$	122	\$	192	

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

		December 31,				
	20	21		2020		
Deferred income tax assets—noncurrent	\$	236	\$	205		
Deferred income tax liabilities—noncurrent	<u></u>	(114)		(13)		
	\$	122	\$	192		

A valuation allowance has been provided for \$20.6 million and \$20.7 million against U.S. deferred tax assets as of December 31, 2021 and 2020, respectively. Also, a valuation allowance has been provided for \$1.3 million and \$1.4 million against Canadian deferred tax assets as of December 31, 2021 and 2020, 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, 2021 and 2020, 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, 2021 and 2020 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 U.S., Canada and various state and foreign jurisdictions. Our U.S. income tax returns for 2018 and subsequent years remain open for examination and our Canadian income tax returns for 2016 and subsequent years remain open for examination.

Note 17. 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 December 31,					
		2021	2020			2019
Numerator						
Net loss	\$	(3,779)	\$	(39,106)	\$	(22,818)
Less: income attributable to non-controlling interest		955		18,493		10,005
Net loss attributable to NCS Multistage Holdings, Inc.	\$	(4,734)	\$	(57,599)	\$	(32,823)
Denominator						
Basic weighted average number of shares		2,396		2,364		2,332
Dilutive effect of other equity awards						
Diluted weighted average number of shares		2,396		2,364		2,332
Loss per common share						
Basic	\$	(1.98)	\$	(24.37)	\$	(14.08)
Diluted	\$	(1.98)	\$	(24.37)	\$	(14.08)
Potentially dilutive securities excluded as anti-dilutive		239		221		213

Note 18. 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 (see "Note 1. Organization and Basis of Presentation").

Revenue by country for 2021, 2020 and 2019 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,				
		2021		2020		2019
United States						
Product sales	\$	26,285	\$	38,866	\$	79,128
Services		8,870		7,313		24,163
Total United States		35,155		46,179		103,291
Canada						
Product sales		53,401		34,330		59,895
Services		19,682		14,219		26,668
Total Canada	'	73,083	'	48,549		86,563
Other Countries						
Product sales		3,537		2,001		6,803
Services		6,727	<u></u>	10,248		8,828
Total Other Countries		10,264		12,249	·	15,631
Total						
Product sales		83,223		75,197		145,826
Services		35,279		31,780		59,659
Total revenues	\$	118,502	\$	106,977	\$	205,485

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

	De	ecember 31, 2021	December 31, 2020
United States	\$	17,835	\$ 16,616
Canada		9,604	10,356
Other Countries		2,078	2,633
	\$	29,517	\$ 29,605

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

None.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

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, 2021. Based on this evaluation, our Chief Executive Officer and Chief Financial Officer concluded that, as of December 31, 2021, 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, 2021.

In addition, because we are an "emerging growth company" under the JOBS Act and a non-accelerated filer, our independent registered public accounting firm will not be required to attest to the effectiveness of our internal control over financial reporting for so long as we are either an emerging growth company or 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, 2021 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 2022 Annual Meeting of Stockholders (the "2022 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 2022 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, 2021, including the 2017 Plan, the 2012 Plan, and 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	264,831	\$ 122.14	429,602
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 and payments could occur at larger amounts if performance metrics are met.

(2) RSUs and PSUs are excluded when determining the weighted-average exercise price.

The other information required by this Item will be included in the Company's 2022 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 2022 Proxy Statement to be filed with the SEC and is incorporated herein by reference.

Item 14. Principal Accounting Fees and Services

The information required by this Item will be included in the Company's 2022 Proxy Statement to be filed with the SEC and is incorporated herein by reference.

⁽³⁾ Includes 86,416 shares remaining available for issuance under the ESPP. The ESPP was suspended for future offering periods beginning on July 1, 2019.

PART IV

Item 15. Exhibits 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 Form 8-K filed on August 30, 2017).
	<u>3.1</u>	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).
	<u>3.2</u>	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,
		<u>2020).</u>
	<u>3.3</u>	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).
	<u>4.1</u>	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).
	<u>4.2</u>	Registration Rights Agreement (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K (File No. 001-
	10.1	38071) filed on May 3, 2017).
	<u>10.1</u>	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).
	10.2	Amendment No. 1 to Second Amended and Restated Credit Agreement, dated as of August 6, 2020, by and among NCS Multistage
	10.2	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).
+	10.3	NCS Multistage Holdings, Inc. 2017 Equity Incentive Plan ("2017 Equity Incentive Plan") (incorporated by reference to Exhibit 4.3 to
'	10.5	the Company's Registration Statement on Form S-8 (File No. 333-217516) filed on April 27, 2017).
†	10.4	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).
†	10.5	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).
+	<u>10.6</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>10.7</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).
		95

Table of Contents 10.8 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 Form 8-K filed on November 19, 2018). Second Amendment to NCS Multistage Holdings, Inc. Employee Stock Purchase Plan for U.S. Employees (incorporated by reference 10.9 to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q (File No. 001-38071) filed on August 6, 2019). NCS Multistage Holdings, Inc. Employee Stock Purchase Plan for Non-U.S. Employees (incorporated by reference to Exhibit 4.2 to 10.10 the Company's Registration Statement on Form S-8 (File No. 333-220165) filed on August 25, 2017). First Amendment to NCS Multistage Holdings, Inc. Employee Stock Purchase Plan for Non-U.S. Employees (incorporated by 10.11 reference to Exhibit 10.2 to the Company's Form 8-K filed on November 19, 2018) 10.12 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-Q (File No. 001-38071) filed on August 6, 2019). 10.13 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 Form 8-K filed on March 4, 2019). 10.14 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). 10.15 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). 10.16 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). Form of Equivalent Stock Unit Award Agreement under the 2017 Equity Incentive Plan for executives (incorporated by reference to 10.17 Exhibit 10.2 to the Company's Form 8-K filed on March 4, 2019). Form of Restricted Stock Unit Award Agreement under the 2017 Equity Incentive Plan for non-executives (incorporated by reference 10.18 to Exhibit 10.7 to the Company's Quarterly Report on Form 10-Q (File No. 001-38071) filed on August 9, 2017). Form of Stock Option Award Agreement under the 2017 Equity Incentive Plan for non-executives (incorporated by reference to 10.19 Exhibit 10.14 to the Company's Registration Statement on Form S-1 (File No. 333-216580) filed on April 17, 2017). Form of Equivalent Stock Unit Award Agreement under the 2017 Equity Incentive Plan for non-executives (incorporated by reference 10.20 to Exhibit 10.17 to the Company's Annual Report on Form 10-K (File No. 001-38071) filed on March 8, 2019). 10.21 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 Form 8-K filed on August 9, 2017). Amended and Restated Employment Agreement between NCS Multistage Holdings, Inc. and Tim Willems, dated as of August 3, 2017 10.22 (incorporated by reference to Exhibit 10.2 to the Company's Form 8-K filed on August 9, 2017). 10.23 Employment Agreement between NCS Multistage Holdings, Inc. and Ryan Hummer, dated as of August 3, 2017 (incorporated by reference to Exhibit 10.3 to the Company's Form 8-K filed on August 9, 2017). 10.24 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).

Employment Agreement between NCS Multistage Holdings, Inc. and Ori Lev, dated as of October 27, 2020 (incorporated by reference 10.25 to Exhibit 10.30 to the Company's Annual Report on Form 10-K (File No. 001-38071) filed on March 8, 2021).

Form of Director Indemnification Agreement (incorporated by reference to Exhibit 10.6 to the Company's Registration Statement on 10.26 Form S-1 (File No. 333-216580) filed on April 17, 2017).

10.27 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). 10.28

Contribution Agreement by and among NCS Multistage Holdings, Inc. and certain unitholders of Spectrum Tracer Services, LLC, as identified therein, dated as of August 31, 2017 (incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed on September 1, 2017).

List of subsidiaries of the Company. 23.1 Consent of Grant Thornton LLP.

Consent of PricewaterhouseCoopers LLP. 23.2

31.1 Certification of Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.

*	31.2	Certification of Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
**	32.1	Certification of Chief Executive Officer Pursuant to 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 8, 2022 NCS Multistage Holdings, Inc.

By: /s/ Ryan Hummer

Ryan Hummer

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 8, 2022.

Robert Nipper (Princ	cipal Executive Officer)
	ancial Officer and Treasurer cipal Financial Officer)
	ce President, Finance ipal 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/ 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 8, 2022, with respect to the consolidated financial statements included in the Annual Report of NCS Multistage Holdings, Inc. on Form10-K for the year ended December 31, 2021. We consent to the incorporation by reference of said report 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. 333-239307, File No. 333-220165 and File No. 333-217516).

/s/ GRANT THORNTON LLP

Houston, Texas March 8, 2022

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements on Form S-3 (Nos. 333-257795 and 333-224725) and Form S-8 (Nos. 333-251270, 333-239307, 333-220165 and 333-217516) of NCS Multistage Holdings, Inc. of our report dated March 8, 2021 relating to the financial statements, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP Houston, Texas March 8, 2022

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, Robert Nipper, certify that:

- 1. I have reviewed this Annual Report on Form 10-K (this "report") of NCS Multistage Holdings, Inc. ("the registrant");
- Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
- 3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
- 4. The registrant's other certifying officer 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.

/s/ Robert Nipper	
Robert Nipper Chief Executive Officer	

Date: March 8, 2022

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, 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;
- 3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
- 4. The registrant's other certifying officer 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):
 - 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 8, 2022

/s/ Ryan Hummer
Ryan Hummer
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, 2021, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Robert Nipper, 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. 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 8, 2022	/s/ Robert Nipper	
	Robert Nipper	
	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, 2021, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Ryan Hummer, 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 8, 2022	/s/ Ryan Hummer
	Ryan Hummer
	Chief Financial Officer and Treasurer