

**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, 2019
OR
- TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
FOR THE TRANSITION PERIOD FROM ___ TO ___
Commission File Number: 001-38347

Nine Energy Service, Inc.
(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

80-0759121
(I.R.S. Employer
Identification No.)

2001 Kirby Drive, Suite 200
Houston, TX 77019
(Address of principal executive offices)
(281) 730-5100

(Registrant's telephone number, including area code)

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

<u>Title of each class</u>	<u>Trading Symbol(s)</u>	<u>Name of each exchange on which registered</u>
Common Stock, par value \$0.01 per share	NINE	New York Stock Exchange

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

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

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

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

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

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

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

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

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

The aggregate market value of the registrant's common stock held by non-affiliates of the registrant on the last business day of the registrant's most recently completed second fiscal quarter (based on the closing sales price on the New York Stock Exchange on June 28, 2019) was \$277,678,642.

The number of shares of the registrant's common stock outstanding at March 5, 2020 was 30,537,732.

DOCUMENTS INCORPORATED BY REFERENCE

Information called for in Part III of this Annual Report on Form 10-K is incorporated by reference to the registrant's Definitive Proxy Statement for its Annual Meeting of Stockholders to be held in May 2020.

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CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K (this “Annual Report”) contains forward-looking statements that are subject to a number of risks and uncertainties, many of which are beyond our control. All statements, other than statements of historical fact, regarding our strategy, future operations, financial position, estimated revenues and losses, projected costs, prospects, plans, and objectives of management are forward-looking statements. When used in this Annual Report, the words “could,” “believe,” “anticipate,” “intend,” “estimate,” “expect,” “may,” “continue,” “predict,” “potential,” “project,” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain such identifying words.

All forward-looking statements speak only as of the date of this Annual Report; we disclaim any obligation to update these statements unless required by law, and we caution you not to place undue reliance on them. Although we believe that our plans, intentions, and expectations reflected in or suggested by the forward-looking statements we make in this Annual Report are reasonable, we can give no assurance that these plans, intentions, or expectations will be achieved.

We disclose important known factors that could cause our actual results to differ materially from our expectations under “Risk Factors” in Item 1A of Part I and in “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in Item 7 of Part II of this Annual Report. Additional risks or uncertainties that are not currently known to us, that we currently deem to be immaterial, or that could apply to any company could also materially adversely affect our business, financial condition, or future results.

These cautionary statements qualify all forward-looking statements attributable to us or persons acting on our behalf.

PART I

Item 1. Business

Overview

Nine Energy Service, Inc. (either individually or together with its subsidiaries, as the context requires, the “Company,” “Nine,” “we,” “us,” and “our”) is a Delaware corporation that was formed in February 2013 through a combination of three service companies owned by SCF Partners, L.P. or its affiliates. Nine is a leading completion services provider that targets unconventional oil and gas resource development across all North American basins and abroad. We partner with our exploration and production (“E&P”) customers to design and deploy downhole solutions and technology to prepare horizontal, multistage wells for production. We focus on providing our customers with cost-effective and comprehensive completion solutions designed to maximize their production levels and operating efficiencies. We believe our success is a product of our culture, which is driven by our intense focus on performance and wellsite execution as well as our commitment to forward-leaning technologies that aid us in the development of smarter, customized applications that drive efficiencies.

We provide our comprehensive completion solutions across a diverse set of well-types, including on the most complex, technically demanding unconventional wells. Modern, high-intensity completion techniques are a more effective way for our customers to maximize resource extraction from horizontal oil and gas wells. These completion techniques provide improved estimated ultimate recovery per lateral foot and a superior return on investment by decreasing cycle time, which make them attractive to operators despite their associated increased well cost. We compete for the most intricate and demanding projects, which are characterized by extended reach horizontal laterals, increased stage counts per well, multi-well pad development, and increased proppant loading per lateral foot. As stage counts per well and wells per pad increase, so do our operating leverage and returns, as we are able to complete more jobs and stages with the same number of units and crews. Service providers for these demanding projects are selected based on their technical expertise and ability to execute safely and efficiently, rather than only price. As our customers continue to improve operational efficiencies in completions design, increasing its complexity and difficulty, oilfield service selection becomes much more critical and selective.

We offer a variety of completion applications and technologies to match customer needs across the broadest addressable completions market. Our comprehensive well solutions range from cementing the well at the initial stages of the completion, preparing the well for stimulation, isolating all the stages of an extended reach lateral, and the drilling out of isolation tools. Our completion techniques are specifically tailored to the customer and geology of each well. At the initial stage of a well completion, our lab facilities produce customized cementing slurries used to secure the production casing to ensure well integrity throughout the life of the well. Once the casing is in place, we utilize our proprietary tools at the toe (end) of the well, often called stage one, to prepare for the well stimulation process. We provide customers with plug-and-perf or pinpoint frac sleeve system technology to complete the remaining stages of the well. Through our wireline units, we provide plug-and-perf services that, when combined with our fully-composite or dissolvable frac plugs, create perforations to isolate and divert the fracture to the correct stage. Our pinpoint frac sleeve system involves packers, either hydraulic or swellable, to isolate sections of the wellbore and frac sleeves to provide access to each stage for stimulation and production. Our equipment also includes large-diameter coiled tubing units that are capable of reaching the farthest depths for the removal of plugs and cleaning of the wellbore to prepare for production.

In October 2018, we acquired Magnum Oil Tools International, LTD, Magnum Oil Tools GP, LLC, and Magnum Oil Tools Canada Ltd. (collectively, “Magnum” and such acquisition, the “Magnum Acquisition”). Magnum is a leading oilfield completion tools company that is focused on the development of innovative tools for unconventional oil and gas resource development. Magnum has a broad offering of proprietary downhole completions consumables products, including a comprehensive line of dissolvable and composite frac plugs; disk subs, including intervention-less designs, for wellbore isolation and casing flotation device applications; and dissolvable frac balls.

Our website is located at <https://nineenergyservice.com>, and our investor relations website is located at <https://investor.nineenergyservice.com>. The information posted on our website is not incorporated into this Annual Report. Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to reports filed or furnished pursuant to Sections 13(a) and 15(d) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), are available free of charge on our investor relations website as soon as reasonably practicable after we electronically file such material with, or furnish it to, the Securities and Exchange Commission (the “SEC”). You may also access all of our public filings through the SEC’s website at www.sec.gov. Investors and other interested parties should note that we use our investor relations website to publish important information about us, including information that may be deemed material to investors. We encourage investors and other interested parties to review the information we may publish through our investor relations website, in addition to our SEC filings, press releases, conference calls, and webcasts.

Our Services

We derive revenue by providing services integral to the completion of unconventional wells through a full range of tools and methodologies. On August 30, 2019, we sold our *Production Solutions* segment. For additional information on this divestiture, see Note 3 – Divestitures, Acquisitions, and Combinations included in Item 8 of Part II of this Annual Report.

The following is a description of our primary service offerings and deployment methods:

Cementing Services: Our cementing services consist of blending high-grade cement and water with various solid and liquid additives to create a cement slurry that is pumped between the casing and the wellbore of the well. We currently operate three high-quality laboratory facilities capable of designing and testing all of the current industry cement designs. The laboratory facilities operate twenty-four hours a day and are fully staffed by qualified technicians with the latest equipment and modeling software. Additionally, our technicians and engineers ensure that all tests are performed to American Petroleum Institute specifications and results are delivered to customers promptly. Our cement slurries are designed to achieve the proper cement thickening time, compressive strength, and fluid loss control. Our slurries can be modified to address a wide range of downhole needs of our E&P customers, including varying well depths, downhole temperatures, pressures, and formation characteristics.

We deploy our slurries by using our customized design twin-pumping units, which are fully redundant, containing two pumps, two hydraulic systems, two mixing pumps, and two electrical systems. This customized design significantly decreases our risk of downtime due to mechanical failure and eliminates the necessity to have an additional cementing unit on standby. We have invested in the highest quality cementing equipment, and since 2012, we have deployed only new equipment for use in the fields. As of December 31, 2019, we had a total of 37 pumping units.

From January 2014 through December 2019, we completed approximately 19,600 cementing jobs, with an on-time rate of approximately 91%. Punctuality of service has become one of the primary metrics that E&P operators use to evaluate the cementing services they receive. Key contributors to our 91% on-time rate include our lab capabilities, personnel, close proximity to our customers' acreage, dual-sided bulk loading plants, and our service-driven culture.

Completion Tools: We provide downhole solutions and technology used for multistage completions. Our comprehensive completion service offerings are complemented by our unconventional open hole and cemented completion tool products, such as liner hangers and accessories, fracture isolation packers, frac sleeves, stage one prep tools, fully-composite and dissolvable frac plugs, casing flotation tools, specialty open hole float equipment, disk subs, composite cement retainers, and centralizers. Our completion tools provide pinpoint frac sleeve system technologies as well as a portfolio of completion technologies used for completing the toe stage of a horizontal well and fully-composite, dissolvable, and extended range frac plugs to isolate stages during plug and perf operations.

Our systems provide completion efficiencies at the wellsite by reducing our customers' equipment needs and stimulation time and allowing for specific zonal treatment. From March 2011 through December 2019, we deployed approximately 193,300 isolation, stage one, and casing flotation tools and approximately 22,500 frac sleeves.

Wireline Services: Our wireline services involve the use of a wireline unit equipped with a spool of wireline that is unwound and lowered into oil and gas wells to convey specialized tools or equipment for well completion, well intervention, or pipe recovery. We operate a fleet of modern and "fit-for-purpose" cased hole wireline units designed for operating in unconventional completion operations. We currently operate 47 wireline pumpdown units in the U.S. Our operation is equipped with the latest technology utilized to service long lateral completions, including head tension tools, ballistic release tools, and addressable switches. We currently have wireline units equipped with Coated Line, which is a coated wireline that significantly reduces injector oil use. Offering a lower dynamic coefficient of friction, Coated Line Wireline requires less pump down fluid to operate and is more conducive for reaching further depths in longer laterals.

The majority of our wireline work consists of plug-and-perf completions, which is a multistage well completion technique for cased-hole wells that consists of deploying perforating guns to a specified depth. We deploy proprietary specialized tools like our fully-composite and dissolvable frac plugs through our wireline units. From January 2014 through December 2019, we completed approximately 153,100 wireline stages with a success rate of approximately 99%.

Coiled Tubing Services: Coiled tubing services perform wellbore intervention operations utilizing a continuous steel pipe that is transported to the wellsite wound on a large spool in lengths of up to 30,000 feet. Coiled tubing provides a cost-effective solution for well work due to the ability to deploy efficiently and safely into a live well using specialized well-control equipment. The live well work capability limits the customer's risk of formation damage associated with "killing" a well (the temporary placement of heavy fluids in a wellbore to keep reservoir fluids in place), while allowing for safer operations due to

minimal equipment handling. Coiled tubing facilitates a variety of services in both new and old wells, such as milling, drilling, fishing, production logging, artificial lift, cementing, and stimulation.

We currently operate 14 coiled tubing units serving the Permian Basin, SCOOP/STACK region, and Haynesville markets. Our coiled tubing units carry data acquisition and dissemination technology, allowing our customers to monitor jobs via a web interface. Of the 14 coiled tubing units, we consider 12 to be “extended reach” units capable of reaching the toe of wells with total measured depths of 24,000 feet and beyond, including lateral lengths in excess of 12,500 feet, keeping pace with the industry’s most challenging downhole environments. While we specialize in larger-diameter (2 3/8” and 2 5/8”) coiled tubing units, we also offer 2” and 1 1/4” diameter solutions to our customers. From April 2014 through December 2019, we have performed approximately 9,100 jobs and deployed more than 198 million running feet of coiled tubing, with a success rate of over 99%.

Geographic Areas of Operation

We operate in all major onshore basins in both the U.S. and Canada, including the Permian Basin, Marcellus and Utica Shales, Eagle Ford Shale, DJ Basin, SCOOP/STACK Formation, Bakken Formation, Haynesville Formation, and Western Canada Sedimentary Basin. We provide our services through strategically placed operating facilities located in-basin throughout North America. This local presence allows us to quickly respond to customer demands and operate efficiently. Additionally, through our extensive footprint, we are able to track and implement best practices around completion trends and technology across all divisions and geography.

We believe that our strategic geographic diversity will benefit us as activity increases or decreases in select basins by helping to mitigate basin-risk. Our broad geographic footprint provides us with exposure to potential increases in drilling and completion activity and will allow us to opportunistically pursue new business in basins with the most active drilling environments.

Seasonality

Our operations are subject to seasonal factors, and our overall financial results reflect seasonal variations. Specifically, we typically have experienced a pause by our customers around the holiday season in the fourth quarter, which may be compounded as our customers exhaust their annual capital spending budgets towards year end.

Additionally, our operations are directly affected by weather conditions. During the winter months (portions of the first and fourth quarters) and periods of heavy snow, ice, or rain, particularly in the northeastern U.S., North Dakota, Rockies, and western Canada, our customers may delay operations or we may not be able to operate or move our equipment between locations. Also, during the spring thaw, which normally starts in late March and continues through June, some areas, primarily in western Canada, impose transportation restrictions to prevent damage caused by the spring thaw. Throughout the year, heavy rains adversely affect activity levels because well locations and dirt access roads can become impassible in wet conditions. Weather conditions may also negatively affect our customers activity levels.

Sales and Marketing

Our sales activities are conducted through a network of sales representatives and business development personnel, which provides us coverage at both the corporate and field level of our customers. We have a technical sales organization with expertise and focus within our specific service lines. Sales representatives work closely with local operations managers to target potential opportunities through strategic focus and planning. Customers are identified as targets based on their drilling and completion activity, geographic location, and economic viability. Our marketing activities are performed internally with input and guidance from a third-party marketing agency. Our strategy is based on building a strong brand through multiple media outlets including our website, select social media accounts, print and online advertisements, billboard advertisements, press releases and various industry-specific conferences, publications, and lectures.

Customers

Our customer base includes a broad range of integrated and independent E&P companies. For the year ended December 31, 2019, our top five customers collectively accounted for approximately 34% of our revenues. For the year ended December 31, 2019, no single customer accounted for 10% or more of our revenues.

Demand for our services and products is cyclical and substantially dependent upon activity levels in the oil and gas industry, particularly our customers’ willingness to spend capital on the exploration for and development of oil and natural gas. Our customers’ spending plans are generally based on their outlook for near-term and long-term commodity prices. As a result, the demand for our services and products is highly sensitive to current and expected commodity prices.

Competition

We provide our services and products across the United States, Canada, and abroad, and we compete against different companies in each service and product line we offer. Our competition includes many large and small oilfield service companies, including the largest integrated oilfield services companies. We believe that the principal competitive factors in the markets we serve are technology offerings, wellsite execution, service quality, technical expertise, equipment capacity, work force competency, efficiency, safety record, reputation, and experience. Additionally, projects are often awarded on a bid basis, which tends to create a highly competitive environment. We seek to differentiate our company from our competitors by delivering the highest-quality services, technology, and equipment possible, coupled with superior execution and operating efficiency in a safe working environment. By focusing on cultivating our existing customer relationships and maintaining our high standard of customer service, technology, safety, performance, and quality of crews, equipment, and services, we believe we are differentiated in a competitive market.

Our major competitors include Halliburton Company, Schlumberger Limited, Baker Hughes, NCS Multistage, NexTier Oilfield Solutions, KLX Energy Services Holdings, and a significant number of private and locally-oriented businesses.

Suppliers

We purchase a wide variety of raw materials, parts, and components that are manufactured and supplied for our operations from various suppliers. While we are not dependent on any single supplier for those materials, parts, or components, certain product lines acquired in the Magnum Acquisition depend on a limited number of third-party suppliers and vendors. During the year ended December 31, 2019, no supplier of the materials used in our services provided over 10% of our materials or equipment as a percentage of overall costs.

To date, we have generally been able to obtain the equipment, parts, and supplies necessary to support our operations on a timely basis. While we believe that we will be able to make satisfactory alternative arrangements in the event of any interruption in the supply of these materials and/or products by one of our suppliers, we may not always be able to make alternative arrangements. In addition, certain materials for which we do not currently have long-term supply agreements could experience shortages and significant price increases in the future. As a result, we may be unable to mitigate any future supply shortages and our results of operations, prospects, and financial condition could be adversely affected.

Research & Technology, Intellectual Property

Our sales and earnings are influenced by our ability to successfully introduce new or improved products and services to the market. We believe we have become a “go-to” provider for piloting new technologies because of our service quality and offering, execution at the wellsite, and geographic footprint.

Our engineering and technology efforts are focused on providing efficient and cost-effective solutions to maximize production for our customers across major North American onshore basins and abroad. We have dedicated resources focused on internally developing new technology and equipment and evolving our existing proprietary tools, as well as resources focused on sourcing and commercializing new technologies through mergers and acquisitions and strategic partnerships, to stay ahead of industry trends and achieve lower completion and production costs for our customers. With the acquisition of Magnum, our internal research and development capabilities have increased substantially.

We have developed a suite of proprietary downhole tools, products, and techniques through both internal resources, as well as mergers and acquisitions and strategic partnerships with manufacturers and engineering companies looking for a reliable and expansive channel to market. In these partnerships, we have exclusive rights to market and sell technology unavailable to any other service providers in the designated regions, and we sell the technology directly to the customer and order from the manufacturer on an as-needed basis, with no minimum volume requirements and without having to hold excess inventory. These strategic partnerships provide us and our customers with access to unique downhole technology from independent innovators while allowing us to minimize exposure to potential technology adoption risks and the significant costs associated with developing and implementing research and development internally.

Although in the aggregate our patents, licenses, and strategic partnerships are important to us, we do not regard any single patent, license, or strategic partnership as critical or essential to our business as a whole. In general, we depend on our technological capabilities, customer service-oriented culture, and application of our know-how to distinguish ourselves from our competitors, rather than our right to exclude others through patents or exclusive licenses. We also consider the quality and timely delivery of our products, the service we provide to our customers, and the technical knowledge and skill of our personnel to be more important than our registered intellectual property in our ability to compete.

Risk Management and Insurance

Our operations are subject to hazards inherent in the oil and natural gas industry, including, but not limited to, accidents, blowouts, explosions, craterings, fires, oil spills, and hazardous materials spills. These conditions can cause personal injury or loss of life; damage to, or destruction of, property, the environment, and wildlife; and the suspension of our or our customers' operations.

In addition, claims for loss of oil and gas production and damage to formations can occur in the oilfield services industry. If a serious accident were to occur at a location where our equipment and services are being used, it could result in us being named as a defendant in lawsuits asserting large claims.

Because our business involves the transportation of heavy equipment and materials, we may also experience traffic accidents which may result in spills, property damage, and personal injury.

Despite our efforts to maintain high safety standards, from time to time, we have suffered accidents, and there is a risk that we will experience accidents in the future. In addition to the property and personal losses from these accidents, the frequency and severity of these incidents affect our operating costs, insurability, and relationships with customers, employees, and regulatory agencies. In particular, in recent years many of our large customers have placed an increased emphasis on the safety records of their service providers. Any significant increase in the frequency or severity of these incidents, or the general level of compensatory payments, could adversely affect the cost of, or our ability to obtain, workers' compensation and other forms of insurance and could have other material adverse effects on our financial condition and results of operations.

We maintain insurance coverage of types and amounts that we believe to be customary in the industry including workers' compensation, employer's liability, claims based pollution, umbrella, comprehensive commercial general liability, business automobile, and property. Our insurance coverage may be inadequate to cover our liabilities. In addition, we may not be able to maintain adequate insurance in the future at rates we consider reasonable and commercially justifiable or on terms as favorable as our current arrangements.

We endeavor to allocate potential liabilities and risks between the parties in our Master Service Agreements ("MSAs"). We retain the risk for any liability not indemnified by our customers in excess of our insurance coverage. These MSAs delineate our and our customers' respective warranty and indemnification obligations with respect to the services we provide. We endeavor to negotiate MSAs with our customers that provide, among other things, that we and our customers assume (without regard to fault) liability for damages to our respective personnel and property. For catastrophic losses, we endeavor to negotiate MSAs that include industry-standard carve-outs from the knock-for-knock indemnities. Additionally, our MSAs often provide carve-outs to the "without regard to fault" concept that would permit, for example, us to be held responsible for events of catastrophic loss only if they arise as a result of our gross negligence or willful misconduct. Our MSAs typically provide for industry-standard pollution indemnities, pursuant to which we assume liability for surface pollution associated with our equipment and originating above the surface (without regard to fault), and our customer assumes (without regard to fault) liability arising from all other pollution, including, without limitation, underground pollution and pollution emanating from the wellbore as a result of an explosion, fire, or blowout. This description of our MSAs is a summary of the material terms of the typical MSA that we have in place and does not reflect every MSA that we have entered into or may enter into in the future, some of which may contain indemnity structures and risk allocations between our customers and us that are different than those described here.

Employees

As of December 31, 2019, we had 1,469 employees. We are not a party to any collective bargaining agreements.

Government Regulations and Environmental, Health, and Safety Matters

Our operations are subject to numerous stringent and complex laws and regulations at the U.S. federal, state, and local levels governing the discharge of materials into the environment, environmental protection, and health and safety aspects of our operations. In addition, due to our operations in Canada, we are subject to Canadian environmental statutes and regulations. Failure to comply with these laws and regulations or to obtain or comply with permits may result in the assessment of administrative, civil, and criminal penalties, imposition of remedial or corrective action requirements, and the imposition of injunctions or other orders to prohibit certain activities, restrict certain operations, or force future compliance with environmental requirements.

There is inherent risk of incurring significant environmental costs and liabilities in the performance of our operations due to our handling of petroleum hydrocarbons, other hazardous substances, and wastes, as a result of air emissions and

wastewater discharges related to our operations, and because of historical operations and waste disposal practices. Spills or other releases of regulated substances, including such spills and releases that occur in the future, could expose us to material losses, expenditures, and liabilities under applicable environmental laws and regulations. Under certain of such laws and regulations, we could be held strictly liable for the removal or remediation of previously released materials or property contamination, regardless of whether we were responsible for the release or contamination and even if our operations met previous standards in the industry at the time they were conducted.

The following is a summary of some of the existing laws, rules, and regulations to which we are subject.

Hazardous Substances and Waste Handling

The Resource Conservation and Recovery Act (“RCRA”) and comparable state statutes regulate the generation, transportation, treatment, storage, disposal, and cleanup of hazardous and non-hazardous wastes. Under the guidance issued by the U.S. Environmental Protection Agency (the “EPA”), the individual states administer some or all of the provisions of RCRA, sometimes in conjunction with their own, more stringent requirements. We are required to manage the disposal of hazardous and non-hazardous wastes in compliance with RCRA and analogous state laws. RCRA currently exempts many E&P wastes from classification as hazardous waste. Specifically, RCRA excludes from the definition of hazardous waste produced waters and other wastes intrinsically associated with the exploration, development, or production of crude oil and natural gas. However, these oil and gas E&P wastes may still be regulated under state solid waste laws and regulations, and it is possible that certain oil and natural gas E&P wastes now classified as non-hazardous could be classified as hazardous waste in the future. For example, in December 2016, the EPA and environmental groups entered into a consent decree to address the EPA’s alleged failure to timely assess its RCRA Subtitle D criteria regulations exempting certain E&P related oil and gas wastes from regulation as hazardous wastes under RCRA. The consent decree required the EPA to propose a rulemaking no later than March 15, 2019 for revision of certain Subtitle D criteria regulations pertaining to oil and gas wastes or to sign a determination that revision of the regulations is not necessary. On April 23, 2019, the EPA determined that a revision of the regulations was not necessary. Stricter regulation of wastes generated during our or our customers’ operations could result in increased costs for our operations or the operations of our customers, which could in turn reduce demand for our services and adversely affect our business.

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”), also known as the Superfund law, imposes 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 current and former owner or operator of the site where the release occurred and anyone who transported or disposed or arranged for the transport or disposal of a hazardous substance released at the site. Persons who are or were responsible for releases of hazardous substances under CERCLA and any state analogs may be subject to joint and several strict liability for the costs of cleaning up the hazardous substances that have been released into the environment and for damages to natural resources and for the costs of certain health studies. We currently own, lease, or operate numerous properties that have been used for manufacturing and other operations for many years. These properties and the substances disposed or released on them may be subject to CERCLA and analogous state laws. Under such laws, we could be required to remove previously disposed substances and wastes, remediate contaminated property, or perform remedial operations to prevent future contamination. 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 the hazardous substances released into the environment.

Worker Health and Safety

We are subject to a number of federal and state laws and regulations, including the federal Occupational Safety and Health Act (“OSHA”), establishing requirements to protect the health and safety of workers. The OSHA hazard communication standard, the EPA community right-to-know regulations under Title III of the federal Superfund Amendment and Reauthorization Act, and comparable state statutes require maintenance of information about hazardous materials used or produced in operations and provision of this information to employees, state and local government authorities, and citizens. In June 2016, OSHA finalized a new regulation regarding crystalline silica exposures, which included requirements that hydraulic fracturing operations implement dust controls to limit exposures to the substance by June 23, 2021. Additionally, the Federal Motor Carrier Safety Administration (the “FMCSA”) regulates and provides safety oversight of commercial motor vehicles, the EPA establishes requirements to protect human health and the environment, the federal Bureau of Alcohol, Tobacco, Firearms and Explosives establishes requirements for the safe use and storage of explosives, and the federal Nuclear Regulatory Commission establishes requirements for the protection against ionizing radiation. 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 these laws and regulations.

Transportation Safety and Compliance

Due to operating a fleet in excess of 750 commercial motor vehicles, we are subject to a number of federal and state laws and regulations, including the Federal Motor Carrier Safety Regulations and Hazardous Material Regulations for interstate travel and comparable state regulations for intrastate travel. 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 the safe operation of commercial motor vehicles.

Water Discharges

The Federal Water Pollution Control Act (the “Clean Water Act”) and analogous state laws impose restrictions and strict controls with respect to the discharge of pollutants, including spills and leaks of oil and other substances, into waters of the United States. The discharge of pollutants into regulated waters, including jurisdictional wetlands, is prohibited, except in accordance with the terms of a permit issued by the EPA or an analogous state agency. In September 2015, a new EPA and U.S. Army Corps of Engineers (the “Corps”) rule defining the scope of federal jurisdiction over wetlands and other waters became effective; however, this rule was repealed on October 22, 2019. On January 23, 2020, the EPA and the Corps issued a final rule re-defining the term “waters of the United States” as applied under the Clean Water Act and narrowing the scope of waters subject to federal regulation. This 2020 rule is subject to various pending legal challenges. Future implementation of this final rule is uncertain at this time. To the extent a future rule expands the range of properties subject to the Clean Water Act’s jurisdiction, certain energy companies could face increased costs and delays with respect to obtaining permits for dredge and fill activities in wetland areas, which in turn could reduce demand for our services. The process for obtaining permits has the potential to delay our operations and those of our customers. Spill prevention, control, and countermeasure requirements of federal laws require appropriate containment berms and similar structures to help prevent the contamination of navigable waters by a petroleum hydrocarbon tank spill, rupture, or leak. In addition, the Clean Water Act and analogous state laws require individual permits or coverage under general permits for discharges of wastewater and storm water runoff from certain types of facilities. Federal and state regulatory agencies can impose administrative, civil, and criminal penalties as well as other enforcement mechanisms for non-compliance with discharge permits or other requirements of the Clean Water Act and analogous state laws and regulations. The Clean Water Act and analogous state laws provide for administrative, civil, and criminal penalties for unauthorized discharges and, together with the Oil Pollution Act of 1990, impose rigorous requirements for spill prevention and response planning, as well as substantial potential liability for the costs of removal, remediation, and damages in connection with any unauthorized discharges.

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 requirements. In addition, the EPA has developed, and continues to develop, stringent regulations governing emissions of toxic air pollutants at specified sources. These regulations change frequently. These laws and regulations may require us to obtain pre-approval for the construction or modification of certain projects or facilities expected to produce or significantly increase air emissions, obtain and strictly comply with stringent air permit requirements, or utilize specific equipment or technologies to control emissions of certain pollutants. For example, in May 2016, the EPA finalized rules regarding criteria for aggregating multiple small surface sites into a single source for air-quality permitting purposes applicable to the oil and gas industry. This rule could cause small facilities, on an aggregate basis, to be deemed a major source, thereby triggering more stringent air permitting requirements. In addition, in October 2015, the EPA lowered the National Ambient Air Quality Standard (“NAAQS”) for ozone from 75 to 70 parts per billion. In November 2017, the EPA published a list of areas that are in compliance with the new ozone standard and, separately in December 2017, issued responses to state recommendations for designating non-attainment areas. The EPA completed all initial area designations in July 2018. State implementation of the revised NAAQS could result in stricter permitting requirements, which in turn could delay or impair our or our customers’ ability to obtain air emission permits, and result in increased expenditures for pollution control equipment, the costs of which could be significant. Federal and state regulatory agencies can impose administrative, civil, and criminal penalties, as well as injunctive relief, for non-compliance with air permits or other requirements of the CAA and associated state laws and regulations.

Climate Change

The EPA has determined that emissions of greenhouse gases, including carbon dioxide and methane, present a danger 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. The EPA has established greenhouse gas emission reporting requirements for sources in the oil and gas sector and has also promulgated rules requiring certain large stationary sources of greenhouse gases to obtain preconstruction permits under the CAA and follow “best available control technology” requirements. Although we are not likely to become subject to greenhouse gas emissions permitting and best available control technology requirements

because none of our facilities are presently major sources of greenhouse gas emissions, such requirements could become applicable to our customers and could have an adverse effect on their costs of operations or financial performance, thereby adversely affecting our business, financial condition, and results of operations.

In December 2015, the 21st Conference of the Parties of the United Nations Framework Convention on Climate Change resulted in 195 countries, including the United States, coming together to develop the Paris Agreement, which calls for the parties to undertake “ambitious efforts” to limit the average global temperature. The Paris Agreement went into effect on November 4, 2016 and establishes a framework for the parties to cooperate and report actions to reduce greenhouse gas emissions. The United States formally announced its intent to withdraw from the Paris Agreement on November 4, 2019, with withdrawal becoming effective on November 4, 2020.

Also, the U.S. Congress has from time to time considered adopting legislation to reduce emissions of greenhouse gases, and many states have already established regional greenhouse gas “cap-and-trade” programs. The adoption of any legislation or regulation that restricts emissions of greenhouse gases from the equipment and operations of our customers or with respect to the oil and natural gas they produce could adversely affect demand for our products and services. Finally, most scientists have concluded that increasing concentrations of greenhouse gases in the Earth’s atmosphere may produce climate changes that could have significant physical effects, such as increased frequency and severity of storms, droughts, and floods and other climatic events; if such effects were to occur, they could have an adverse impact on our operations.

Hydraulic Fracturing

Our businesses are dependent on hydraulic fracturing and horizontal drilling activities. Hydraulic fracturing is an important and 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 chemicals under pressure into formations to fracture the surrounding rock and stimulate production, is typically regulated by state oil and natural gas commissions. However, federal agencies have asserted regulatory authority over certain aspects of the process. For example, the EPA has asserted federal regulatory authority pursuant to the federal Safe Drinking Water Act over certain hydraulic fracturing activities involving the use of diesel fuels and published permitting guidance in February 2014 addressing the performance of such activities using diesel fuels.

There is considerable uncertainty surrounding regulation of the emissions of methane, which may be released during hydraulic fracturing. In 2016, the EPA issued final regulations under the CAA establishing performance standards, including standards for the capture of methane emissions released during hydraulic fracturing. However, the EPA has taken several steps to delay implementation of its methane standards, including most recently in September 2018, when the EPA announced a proposed rule that rolls back parts of the 2016 performance standards. Various industry and environmental groups have separately challenged both the original standards and the EPA’s attempts to delay implementation of the rule. Separately, in August 2019, the EPA issued proposed amendments that would rescind requirements related to the regulations of methane emissions from the oil and natural gas industry. Neither rulemaking has been finalized to date and, therefore, the scope of future obligations continues to remain uncertain. In addition, in April 2018, a coalition of states filed a lawsuit in the U.S. District Court for the District of Columbia aiming to force the EPA to establish guidelines for limiting methane emissions from existing sources in the oil and natural gas sector; that lawsuit is pending. On March 20, 2015, the U.S. Bureau of Land Management (the “BLM”) finalized a rule regulating hydraulic fracturing activities on federal lands, including requirements for the disclosure, wellbore integrity, and handling of flowback water; however, on December 29, 2017, the BLM issued a rescission of the hydraulic fracturing rule. This rescission and the rule as promulgated are subject to ongoing litigation. The BLM also previously finalized in 2016 similar limitations on methane emissions from venting and flaring and leaking equipment from oil and natural gas activities on public lands, but in September 2018 issued a final rule repealing certain provisions of the 2016 rule and reinstating the pre-2016 regulations. This repeal is the subject of legal challenges. As a result, future implementation of both the EPA and BLM methane rules is uncertain at this time. However, given the long-term trend towards increasing regulation, future federal regulation of methane and other greenhouse gas emissions from the oil and gas industry remain a possibility.

The EPA has also issued effluent limitation guidelines that prohibit the discharge of wastewater from hydraulic fracturing operations to publicly owned wastewater treatment plants. These rules were finalized in June 2016. The EPA conducted a study on effluent guidelines for the oil and gas industry, and a draft of this study was published in May 2019. It is unclear how any additional federal regulation of hydraulic fracturing activities may affect our operations, but additional regulatory burdens on our customers could ultimately result in decreased demand for our services.

Various studies analyzing the potential environmental impacts of hydraulic fracturing have also been performed. For example, in December 2016, the EPA released its final report on the potential impacts of hydraulic fracturing on drinking water resources. The final report concluded that “water cycle” activities associated with hydraulic fracturing may impact drinking

water resources “under some circumstances,” noting that the following hydraulic fracturing water cycle activities and local- or regional-scale factors are more likely than others to result in more frequent or more severe impacts: water withdrawals for fracturing in times or areas of low water availability; surface spills during the management of fracturing fluids, chemicals or produced water; injection of fracturing fluids into wells with inadequate mechanical integrity; injection of fracturing fluids directly into groundwater resources; discharge of inadequately treated fracturing wastewater to surface waters; and disposal or storage of fracturing wastewater in unlined pits. As described elsewhere in this Annual Report, these risks are regulated under various state, federal, and local laws.

Some states, counties, and municipalities have enacted or are considering moratoria on hydraulic fracturing. For example, New York, Vermont, Maryland, and Washington have banned, or are in the process of banning, the use of high-volume hydraulic fracturing. Alternatively, some municipalities are, or have considered, zoning and other ordinances, the conditions of which could impose a de facto ban on drilling and/or hydraulic fracturing operations. Further, some states, counties, and municipalities are closely examining water use issues, such as permit and disposal options for processed water, which could have a material adverse impact on our financial condition, prospects, and results of operations if such additional permitting requirements are imposed upon our industry. If new laws or regulations that significantly restrict hydraulic fracturing are adopted, such laws could reduce demand for our business by making it more difficult or costly for certain customers to perform fracturing to stimulate production from tight formations. In addition, if hydraulic fracturing becomes regulated at the federal level as a result of federal legislation or regulatory initiatives by the EPA, the business and operations of our customers could be subject to additional permitting requirements, attendant permitting delays, increased operating and compliance costs and process prohibitions, which could have an adverse effect on our business, financial condition, and results of operations.

In light of concerns about seismic activity being triggered by the injection of produced waters into underground wells, certain regulators are also considering additional requirements related to seismic safety for hydraulic fracturing activities. A 2015 U.S. Geological Survey report identified eight states, including Texas, with areas of increased rates of induced seismicity that could be attributed to fluid injection or oil and gas extraction. Any regulation that restricts the ability of our customers to dispose of produced waters or increases their cost of doing business could cause them to curtail operations, which in turn could decrease demand for our services and have a material adverse effect on our business.

National Environmental Policy Act

Businesses and operations of our customers that are carried out on federal lands may be subject to the National Environmental Policy Act (“NEPA”), which requires federal agencies, including the Department of the Interior, to evaluate major agency actions having the potential to significantly impact the environment. In the course of such evaluations, an agency will prepare an Environmental Assessment that assesses the potential direct, indirect, and cumulative impacts of a proposed project and, if necessary, will prepare a more detailed Environmental Impact Statement that may be made available for public review and comment. On January 10, 2020, the Council on Environmental Quality issued a proposed rule designed to streamline approvals for projects under NEPA. Among other revisions, the proposed rule would redefine environmental “effects” or “impacts” as the effects “that are reasonably foreseeable and have a reasonably close causal relationship to the proposed action or alternatives.” The proposed rule would also eliminate the current “direct,” “indirect,” or “cumulative” categories of effects. This rulemaking process is ongoing. To the extent that our customers’ current activities, as well as proposed plans, on federal lands require governmental permits that are subject to the requirements of NEPA, this process has the potential to delay or impose additional conditions upon the development of oil and natural gas projects.

Endangered Species Act

The Endangered Species Act was established to protect endangered and threatened species. Pursuant to that act, if a species is listed as threatened or endangered, restrictions may be imposed on activities adversely affecting that species or its habitat. Similar protections are offered to migratory birds under the Migratory Bird Treaty Act. The U.S. Fish and Wildlife Service must also designate the species’ critical habitat and suitable habitat as part of the effort to ensure survival of the species. A critical habitat or suitable habitat designation could result in further material restrictions to land use and may materially delay or prohibit land access for oil and natural gas development. If our customers were to have areas within their business and operations designated as critical or suitable habitat or a protected species, it could decrease demand for our services and have a material adverse effect on our business.

Item 1A. Risk Factors

We face many challenges and risks in the industry in which we operate. You should carefully consider each of the following risk factors and all of the other information set forth in this Annual Report, including under the section titled “Cautionary Note Regarding Forward-Looking Statements.” The risks and uncertainties described are not the only ones we face. Additional risk factors not presently known to us or which we currently consider immaterial may also adversely affect our business, financial condition, or future results. If any of these risks were actually to occur, our business, financial condition, or results of operations could be materially adversely affected. In that case, the trading price of our common stock could decline, and a stockholder could lose all or part of its investment.

Risks Related to Our Business and Our Industry

Our business is cyclical and depends on capital spending and well completions by the onshore oil and natural gas industry, and the level of such activity is volatile. Our business has been, and may continue to be, adversely affected by industry and financial market conditions that are beyond our control.

Our business is cyclical, and we depend on our customers’ willingness to make operating and capital expenditures to explore for, develop, and produce oil and natural gas, which, in turn, largely depends on prevailing industry and financial market conditions that are influenced by numerous factors beyond our control, including:

- the level of prices, and expectations about future prices, for oil and natural gas;
- the domestic and foreign supply of, and demand for, oil and natural gas and related products;
- the level of global and domestic oil and natural gas production;
- the supply of, and demand for, hydraulic fracturing and other oilfield services and equipment;
- governmental regulations, including the policies of governments regarding the exploration for and production and development of their oil and natural gas reserves;
- the cost of exploring for, developing, producing, and delivering oil and natural gas;
- available pipeline, storage, and other transportation capacity;
- worldwide political, military, and economic conditions;
- global or national health epidemics or concerns, such as the recent coronavirus outbreaks, which may reduce demand for oil, natural gas, and related products because of reduced global or national economic activity;
- lead times associated with acquiring equipment and products and availability of qualified personnel;
- the discovery rates of new oil and natural gas reserves;
- federal, state, and local regulation of hydraulic fracturing and other oilfield service activities, as well as E&P activities, including public pressure on governmental bodies and regulatory agencies to regulate our industry;
- economic and political conditions in oil and natural gas producing countries;
- actions of the Organization of the Petroleum Exporting Countries (“OPEC”), its members, and other state-controlled oil companies relating to oil price and production levels, including announcements of potential changes to such levels;
- advances in exploration, development, and production technologies or in technologies affecting energy consumption;
- activities by non-governmental organizations to restrict the exploration, development, and production of oil and natural gas so as to minimize emissions of carbon dioxide, a greenhouse gas;
- the price and availability of alternative fuels and energy sources;
- global weather conditions and natural disasters; and

- uncertainty in capital and commodities markets and the ability of oil and natural gas producers to access capital.

A decline in oil and natural gas commodity prices may adversely affect the demand for our products and services and the rates we are able to charge.

Our business depends, to a significant extent, on the level of unconventional resource development activity and corresponding capital spending of oil and natural gas companies, which are strongly influenced by current and expected oil and natural gas prices. Volatility or weakness in oil and natural gas commodity prices (or the perception that oil and natural gas commodity prices will decrease) affects the spending patterns of our customers and may result in the drilling of fewer new wells or lower production spending on existing wells. Historically, oil and natural gas commodity prices have been extremely volatile. During the past five years ending December 31, 2019, the posted price for West Texas Intermediate oil has ranged from a low of \$26.19 per barrel in February 2016 to a high of \$77.41 per barrel in June 2018, and the Henry Hub spot market price of gas has ranged from a low of \$1.49 per MMBtu in January 2016 to a high of \$6.24 per MMBtu in January 2018. On March 9, 2020, as a result of multiple significant factors impacting supply and demand in the global oil and natural gas markets, including the announced price reductions and possible production increases by members of OPEC and other oil exporting nations, the posted price for West Texas Intermediate oil declined sharply and may continue to decline. Oil and natural gas commodity prices are expected to continue to be volatile. If the prices of oil and natural gas continue to decline or remain depressed for a lengthy period, our business, financial condition, results of operations, cash flows, and prospects may be materially and adversely affected.

Significant factors that are likely to affect near-term commodity prices include the extent to which members of OPEC and other oil exporting nations continue to reduce oil export prices and increase production; the effect of U.S. energy, monetary, and trade policies; the pace of economic growth in the U.S. and throughout the world, including the potential for macro weakness; geopolitical and economic developments in the U.S. and globally; the outcome of the United States presidential election and subsequent energy and EPA policies; and overall North American natural gas supply and demand fundamentals, including the pace at which export capacity grows. For additional information, please see “Management’s Discussion and Analysis of Financial Condition and Results of Operations – Overview – Industry Trends and Outlook” in Item 7 of Part II of this Annual Report.

On average, we expect customer budgets for 2020 to likely decrease as compared to 2019, which could adversely affect our business. Even if oil and natural gas prices improve, E&P operator activity may not materially increase, as they remain focused on operating within their capital plans.

The products and services we provide are, to a substantial extent, deferrable in the event oil and natural gas companies reduce capital expenditures. As a result, we may experience lower utilization of, and may be unable to increase rates or be forced to lower our rates for, our equipment and services in weak oil and natural gas commodity price environments. As an example, we believe that the drop in the price of oil at the end of 2018 had a negative impact on certain of our customers’ expectations about prices during 2019 and, as a result, the amount of their capital spending budgets for 2019. Any substantial and unexpected drop in commodity prices in the future, even if the drop is relatively short-lived, could similarly affect our customers’ expectations and capital spending, which could result in a material adverse effect on our business, financial condition, results of operations, cash flows, and prospects.

Reduced discovery rates of new oil and natural gas reserves in our market areas as a result of decreased capital spending may also have a negative long-term impact on our business, even in an environment of stronger oil and natural gas prices, to the extent the reduced number of wells for us to service more than offsets increasing completion activity and intensity.

Our business could be adversely affected by a decline in general economic conditions or a weakening of the broader energy industry.

A prolonged economic slowdown or recession, adverse events relating to the energy industry, or regional, national, or global economic conditions and factors, particularly a slowdown in the E&P industry, could negatively impact our operations and therefore adversely affect our results. The risks associated with our business are more acute during periods of economic slowdown or recession because such periods may be accompanied by decreased exploration and development spending by our customers, decreased demand for oil and natural gas, and decreased prices for oil and natural gas.

Our substantial debt obligations could have significant adverse consequences on our business and future prospects.

As of December 31, 2019, we had \$400.0 million of 8.750% Senior Notes due 2023 (the “Senior Notes”) outstanding, and we had \$99.2 million of availability under the 2018 ABL Credit Facility (as defined and described in “Management’s

Discussion and Analysis of Financial Condition and Results of Operations – Liquidity and Capital Resources” in Item 7 of Part II of this Annual Report), net of an outstanding letter of credit of \$0.2 million. Subject to the restrictions in the 2018 ABL Credit Facility and the indenture governing the Senior Notes, we may incur substantial additional indebtedness (including secured indebtedness) in the future. Our current or future level of indebtedness could have significant adverse consequences on our business and future prospects, including in the following ways:

- requiring us to dedicate a substantial portion of our cash flow from operations to service our existing debt, thereby reducing the cash available to finance our operations and other business activities;
- limiting management’s discretion in operating our business and our flexibility in planning for, or reacting to, changes in our business and the industry in which we operate;
- increasing our vulnerability to downturns and adverse developments in our business and the economy generally;
- limiting our ability to access the capital markets to raise capital on favorable terms or to obtain additional financing for working capital, capital expenditures, or acquisitions or to refinance existing indebtedness;
- making us vulnerable to increases in interest rates as our indebtedness under the 2018 ABL Credit Facility may vary with prevailing interest rates;
- placing us at a competitive disadvantage relative to competitors with lower levels of indebtedness in relation to their overall size or less restrictive terms governing their indebtedness; and
- making it more difficult for us to satisfy our obligations under our debt instruments and increase the risk that we may default on our debt obligations.

We may not be able to generate sufficient cash to service all of our indebtedness.

Our ability to make scheduled payments with respect to our indebtedness depends on our financial condition and operating performance, which are subject to prevailing economic and competitive conditions and certain financial, business, and other factors beyond our control. If our cash flows and capital resources are insufficient to fund debt service obligations, we may be forced to sell assets, seek additional capital, or restructure or refinance indebtedness. These alternative measures may not be successful and may not permit us to meet scheduled debt service obligations. For example, we may not be able to consummate dispositions, and the proceeds of any such disposition may not be adequate to meet any debt service obligations then due. Also, our ability to restructure or refinance indebtedness will depend on the condition of the capital markets and our financial condition at such time. Any refinancing of indebtedness could be at higher interest rates and may require us to comply with more onerous covenants, which could further restrict business operations. The terms of existing or future debt instruments may restrict us from adopting some of these alternatives.

If we are unable to generate sufficient cash flow and are otherwise unable to obtain funds necessary to meet required payments of principal, premium, if any, and interest on our indebtedness, we could be in default under the terms of the agreements governing such indebtedness. An event of default, if not waived, could result in acceleration of the indebtedness outstanding under the applicable agreement and an event of default with respect to, and an acceleration of, the indebtedness outstanding under any other debt agreements to which we are a party. Any such accelerated indebtedness would become immediately due and payable. If that occurs, we may not be able to make all of the required payments. In addition, any failure to make payments on outstanding indebtedness on a timely basis would likely result in a reduction of our credit rating, which could harm our ability to incur additional indebtedness.

We may be unable to maintain existing prices or implement price increases on our products and services.

We periodically seek to increase the prices on our products and services to offset rising costs and to generate higher returns for our stockholders. However, we operate in a very competitive industry and as a result, we are not always successful in raising or maintaining our existing prices. Volatility in oil and natural gas prices can impact our customers’ activity levels, and current energy prices are important contributors to cash flow for our customers and their actual or perceived ability to fund exploration and development activities, which may limit our ability to increase or maintain prices. Additionally, during periods of increased market demand, a significant amount of new service capacity, including new well service rigs, wireline units, and coiled tubing units, may enter the market, which also puts pressure on the pricing of our services and limits our ability to increase prices.

Even when we are able to increase our prices, we may not be able to do so at a rate that is sufficient to offset rising

costs. In periods of high demand for oilfield services, a tighter labor market may result in higher labor costs. During such periods, our labor costs could increase at a greater rate than our ability to raise prices for our services. Also, we may not be able to successfully increase prices without adversely affecting our activity levels. The inability to maintain our pricing and to increase our pricing as costs increase could have a material adverse effect on our business, financial position, results of operations, and cash flows.

Intense competition in the markets for our dissolvable plug products may lead to pricing pressures, reduced sales, or reduced market share.

The oil and natural gas industry is intensely competitive and has been characterized by price erosion for new technologies as additional competing products enter the market. In recent months, we have experienced a decline in the pricing and profitability of our dissolvable plug products, including the products acquired in the Magnum Acquisition. Any further declines in the future may harm our business.

We compete with major domestic and international oilfield services companies, many of which have greater market recognition and substantially greater financial, technical, marketing, distribution, and other resources than we do. We have experienced pricing declines in certain of our more mature proprietary product lines, primarily due to competitive conditions. Likewise, our customers may seek pricing declines more precipitously than our ability to reduce costs, leaving us unable to achieve or maintain pricing to our customers at a level sufficient to cover our costs.

We have been able to moderate average selling price declines in many of our proprietary product lines by continuing to introduce new and differentiated products with more valuable features and higher prices. However, there can be no assurance that we will be able to do so in the future. If the amounts we are able to charge customers for our dissolvable plug products decline further or are insufficient to cover our costs, that could have a material adverse effect on our financial condition, results of operations, and cash flows.

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 in loss of market share and damaged customer relationships.

We often place orders with our suppliers based on forecasts of customer demand. Anticipating customer demand is difficult because our customers face unpredictable demand for their own products and are increasingly focused on cash preservation and tighter inventory management. Our forecasts of customer demand are based on multiple assumptions, each of which may introduce errors into the forecasts. 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 we expect to, if at all. As a result, we would 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 orders or the return of previously sold products could materially and adversely affect profit margins, increase inventory obsolescence, and restrict our ability to fund our operations.

We may be unable to employ, or maintain the employment of, a sufficient number of key employees, technical personnel, and other skilled and qualified workers.

The delivery of our services and products requires personnel with specialized skills and experience, including personnel who can perform physically demanding work. Our ability to be profitable and productive will depend upon our ability to employ and retain skilled workers. Workers may choose to pursue employment with our competitors or in fields that offer a more desirable work environment as a result of the volatility in the oilfield service industry and the demanding nature of our work. In addition, the shortage of fixed housing and the lack of employee housing in certain areas where we operate could make it difficult for us to attract and retain quality, long-term personnel. The right-sizing of our and our competitors' labor force over the sustained period of commodity price declines that began in late 2014, as well as a significant decrease in the wages paid by us or our competitors as a result of reduced industry demand, has resulted in a reduction of the available skilled labor force to service the energy industry, and there is no assurance that the availability of skilled labor will improve following a subsequent increase in demand for our products or services or an increase in wage rates. If we are unable to employ and retain skilled workers, our capacity and profitability could be diminished, and our growth potential could be impaired.

Our operations are subject to conditions inherent in the oilfield services industry.

Conditions inherent in the oil and natural gas industry can cause personal injury or loss of life, disruption or suspension in operations, damage to geological formations, damage to facilities, substantial revenue loss, business interruption, and damage to, or destruction of, property, equipment, and the environment. Such risks may include, but are not limited to:

- equipment defects;
- liabilities arising from accidents or damage involving our fleet of trucks and other equipment;
- explosions and uncontrollable flows of gas or well fluids;
- unusual or unexpected geological formations or pressures and industrial accidents;
- blowouts;
- fires;
- cratering;
- loss of well control;
- collapse of the borehole; and
- damaged or lost equipment.

Defects or other performance problems in the products that we sell or services that we offer could result in our customers seeking damages from us for losses associated with these defects or other performance problems. In addition, our services could become a source of spills or release of fluids, including chemicals used during hydraulic fracturing activities, at the site where such services are performed, or could result in the discharge of such fluids into underground formations that were not targeted for fracturing or well completion activities, such as potable aquifers, or at third-party properties. These risks could expose us to substantial liability for personal injury, wrongful death, property damage, loss of oil and natural gas production, pollution, and other environmental damages and could result in a variety of claims, losses, and remedial obligations that could have an adverse effect on our business and results of operations. The existence, frequency, and severity of such incidents could 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 or otherwise experience material defects in our products or performance problems, which could cause us to lose customers and substantial revenue, and any litigation or claims, even if fully indemnified or insured, could negatively affect our reputation with our customers and the public and make it more difficult for us to compete effectively or obtain adequate insurance in the future.

Our success may be affected by the use and protection of our proprietary technology as well as our ability to enter into license agreements. There are limitations to our intellectual property rights and, thus, our right to exclude others from the use of such proprietary technology.

Our success may be affected by our development and implementation of new product designs and improvements and by our ability to protect, obtain, and maintain intellectual property assets related to these developments. We rely on a combination of patents and trade secret laws to establish and protect this proprietary technology. We have received patents and have filed patent applications with respect to certain aspects of our technology, and we generally rely on patent protection with respect to our proprietary technology, as well as a combination of trade secrets and copyright law, employee and third-party non-disclosure agreements, and other protective measures to protect intellectual property rights pertaining to our products and technologies. In addition, we are a party to and rely on several arrangements with third parties, which give us exclusive distribution rights to certain product offerings with desirable intellectual property assets, and we may enter into similar arrangements in the future. Such measures may not provide meaningful protection of our trade secrets, know-how, or other intellectual property in the event of any unauthorized use, misappropriation, or disclosure. We cannot assure you that competitors will not infringe upon, misappropriate, violate, or challenge our intellectual property rights in the future. Additionally, we cannot assure you that our intellectual property rights will deter or prevent competitors from creating similar purpose products for our customers. If we are not able to adequately protect or enforce our intellectual property rights, such intellectual property rights may not provide significant value to our business, results of operations, or financial condition.

Moreover, our rights in our confidential information, trade secrets, and confidential know-how will not prevent third parties from independently developing similar technologies or duplicating such technologies. Publicly available information

(e.g., information in issued patents, published patent applications, and scientific literature) can be used by third parties to independently develop technology, and we cannot provide assurance that this independently-developed technology will not be equivalent or superior to our proprietary technology. In addition, while we have patented some of our key technologies, we do not patent all of our proprietary technology, even when regarded as patentable. The process of seeking patent protection can be long and expensive. There can be no assurance that patents will be issued from currently pending or future applications or that, if patents are issued, they will be of sufficient scope or strength to provide meaningful protection or any commercial advantage to us. Further, with respect to exclusive third-party arrangements, these arrangements could be terminated, which would result in our inability to provide the services and/or products covered by such arrangements.

We may be adversely affected by disputes regarding intellectual property rights, and the value of our intellectual property rights is uncertain.

We may become involved in dispute resolution proceedings from time to time to protect and enforce our intellectual property rights. In these dispute resolution proceedings, a defendant may assert that our intellectual property rights are invalid or unenforceable. Third parties from time to time may also initiate dispute resolution proceedings against us by asserting that our businesses infringe, impair, misappropriate, dilute, or otherwise violate another party's intellectual property rights. We may not prevail in any such dispute resolution proceedings, and our intellectual property rights may be found invalid or unenforceable or our products and services may be found to infringe, impair, misappropriate, dilute, or otherwise violate the intellectual property rights of others. The results or costs of any such dispute resolution proceedings may have an adverse effect on our business, operating results, and financial condition. Any dispute resolution proceeding concerning intellectual property could be protracted and costly, is inherently unpredictable, and could have an adverse effect on our business, regardless of its outcome.

We are exposed to the credit risk of our customers, and the deterioration of the financial condition of our customers could adversely affect our financial results.

We are subject to the risk of loss resulting from nonpayment or nonperformance by our customers, many of whose operations are concentrated solely in the domestic and Canadian E&P industry, which, as described above, is 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 and our inability to re-market or otherwise use our equipment could have a material adverse effect on our business, financial condition, prospects, and/or results of operations. In the course of our business, we hold accounts receivable from our customers. In the event of the financial distress or bankruptcy of a customer, we could lose all or a portion of such outstanding accounts receivable associated with that customer. Further, if a customer was to enter into bankruptcy, it could also result in the cancellation of all or a portion of our service contracts with such customer at significant expense or loss of expected revenues to us.

In addition, during times when the oil or natural gas markets weaken, our customers are more likely to experience financial difficulties, including being unable to access debt or equity financing, which could result in a reduction in our customers' spending for our products and services.

We have operated at a loss in the past, and there is no assurance of our profitability in the future.

Historically, we have experienced periods of low demand for our products and services and have incurred operating losses. In the future, we may not be able to reduce our costs, increase our revenues, or reduce our debt service obligations sufficiently to achieve or maintain profitability and generate positive operating income. Under such circumstances, we may incur further operating losses and experience negative operating cash flow.

Restrictions in our debt agreements could limit our growth and our ability to engage in certain activities.

The 2018 ABL Credit Facility (as defined and described in "Management's Discussion and Analysis of Financial Condition and Results of Operations – Liquidity and Capital Resources" in Item 7 of Part II of this Annual Report) and the indenture governing our Senior Notes have, and future financing agreements could have, restrictive covenants that could restrict our ability to finance future operations or capital needs or to expand or pursue our business activities. For example, our debt agreements contain restrictive covenants that limit our ability to, among other things:

- incur additional indebtedness and guarantee indebtedness;
- pay dividends or make other distributions or repurchase or redeem our capital stock;
- transfer or sell assets;

- make loans and investments;
- incur liens;
- enter into agreements that restrict dividends or other payments from any non-guarantor restricted subsidiaries to us;
- consolidate, merge, or sell all or substantially all of our assets;
- prepay, redeem, or repurchase certain debt;
- issue certain preferred stock or similar equity securities;
- make certain acquisitions and investments;
- engage in transactions with affiliates; and
- create unrestricted subsidiaries.

The restrictions in our debt agreements could also impact our ability to obtain capital to withstand a downturn in our business or the economy in general, or to otherwise conduct necessary corporate activities. We may also be prevented from taking advantage of business opportunities that arise because of the limitations that the restrictive covenants under our debt arrangements may impose on us.

A breach of any covenant in our debt agreements will result in a default under the applicable agreement and an event of default under such agreement if there is no grace period or if such default is not cured during any applicable grace period. An event of default, if not waived, could result in acceleration of the indebtedness outstanding under the applicable agreement and an event of default with respect to, and an acceleration of, the indebtedness outstanding under any other debt agreements to which we are a party. Any such accelerated indebtedness would become immediately due and payable. If that occurs, we may not be able to make all of the required payments or borrow sufficient funds to refinance such indebtedness. Even if new financing were available at that time, it may not be on terms that are acceptable to us.

Our current and potential competitors may have longer operating histories, significantly greater financial or technical resources, and greater name recognition than we do.

The oilfield services industry is highly competitive and fragmented and includes several large companies that compete in many of the markets we serve, as well as numerous small companies that compete with us on a local basis. The oilfield services industry competes primarily on a regional basis, and the intensity of competition may vary significantly from region to region at any particular time. We believe the principal competitive factors in the market areas we serve include price, equipment quality, supply chains, balance sheet strength and financial condition, product and service quality, safety record, availability of crews and equipment, and technical proficiency.

Many of our existing and potential competitors have substantially greater financial, technical, manufacturing, and other resources than we do. The greater size of many of our competitors provides them with cost advantages as a result of their economies of scale and their ability to obtain volume discounts and purchase raw materials at lower prices. As a result, such competitors may have stronger bargaining power with their suppliers and have an advantage over us in pricing as well as securing a sufficient supply of raw materials during times of shortage. Many of our competitors also have better brand name recognition, stronger presence in more geographic markets, more established distribution networks, larger customer bases, more in-depth knowledge of the target markets, and the ability to provide a much broader array of products and services. Some of our competitors may also be able to devote greater resources to the research and development, promotion, and sale of their products and better withstand the evolving industry standards and changes in market conditions as compared to us. Our operations may be adversely affected if our competitors introduce new products or services with better features, performance, prices, or other characteristics than our products and services or expand into service areas where we operate. Our operations may also be adversely affected if our competitors are able to respond more quickly to new or emerging technologies and services and changes in customer requirements.

Competitive pressures could reduce our market share or require us to reduce the price of our services and products, particularly during industry downturns, either of which would harm our business and operating results. Significant increases in overall market capacity have also caused active price competition and led to lower pricing and utilization levels for our services and products. The competitive environment has intensified since the industry downturn that began in late 2014, which caused an oversupply of, and reduced demand for, oilfield services, and we have seen substantial reductions in the prices we can

charge for our services and products. Any significant future increase in overall market capacity for completion services may adversely affect our business, financial condition, and results of operations.

Fuel conservation measures may reduce oil and natural gas demand.

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

Our success may be affected by our ability to implement new technologies and services. Additionally, we rely on a limited number of manufacturers to produce the proprietary products used in the provision of our services, which exposes us to risks.

Our success may be affected by the ongoing development and implementation of new product designs, methods, and improvements, and our ability to protect, obtain, and maintain intellectual property assets related to these developments. If we are not able to obtain patent or other protection of our technology, it may not be economical for us to continue to develop systems, services, and technologies to meet evolving industry requirements at prices acceptable to our customers. Further, we may face competitive pressure to develop, implement, or acquire certain new technologies at a substantial cost. Although we take measures to ensure that we use advanced technologies, changes in technology or improvements in our competitors' equipment could make our equipment less competitive or require significant capital investments to keep our equipment competitive.

We currently rely on a limited number of manufacturers for production of the proprietary products used in the provision of our products and services. Termination of the manufacturing relationship with any of these manufacturers could affect our ability to provide such products and services to our customers. Although we believe other alternate sources of supply for our proprietary products exist, we would need to establish relationships with new manufacturers, which could potentially involve significant expense, delay, and potential changes to certain product components. Any protracted curtailment or interruptions of the supply of any of our key products, whether or not as a result or termination of our manufacturing relationships or patent infringement claims, could have a material adverse effect on our financial condition, business, and results of operations.

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 and may have a larger number of manufacturers for their products or ability to manufacture their own products. As competitors and others use or develop new or comparable technologies in the future, we may lose market share or be placed at a competitive disadvantage if we are not able to develop and implement new technologies or products on a timely basis or at an acceptable cost. If we are unable to compete effectively given these risks, our business and results of operations could be affected.

Uncertainty relating to the LIBOR calculation process and potential phasing out of LIBOR after 2021 may adversely affect the market value of our current or future debt obligations.

Loans to us and our domestic related subsidiaries under the 2018 ABL Credit Facility (as defined and described in "Management's Discussion and Analysis of Financial Condition and Results of Operations – Liquidity and Capital Resources" in Item 7 of Part II of this Annual Report) may be base rate loans or London Interbank Offered Rate ("LIBOR") loans. LIBOR is calculated by reference to a market for interbank lending, and it is based on increasingly fewer actual transactions. This reduction increases the subjectivity of the LIBOR calculation process and increases the risk of manipulation. Actions by the regulators or law enforcement agencies, as well as ICE Benchmark Administration (the current administrator of LIBOR), may result in changes to the manner that LIBOR is determined or the establishment of alternative reference rates. For example, on July 27, 2017, the U.K. Financial Conduct Authority announced that it intends to stop persuading or compelling banks to submit LIBOR rates after 2021. U.S. Dollar LIBOR will likely be replaced by the Secured Overnight Financing Rate ("SOFR") published by the Federal Reserve Bank of New York; however, the timing of this shift is currently unknown. SOFR is an overnight rate instead of a term rate, making SOFR an inexact replacement for LIBOR, and there is not an established process to create robust, forward-looking, SOFR term rates. Changing the benchmark rate for LIBOR loans from LIBOR to SOFR requires calculations of a spread. Industry organizations are attempting to structure the spread calculation in a manner that minimizes the possibility of value transfer between counterparties, borrowers, and lenders by the transition, but there is no assurance that the calculated spread will be fair and accurate. At this time, it is not possible to predict the effect of any such changes, any establishment of alternative reference rates or any other reforms to LIBOR that may be implemented. If LIBOR ceases to exist, we may need to renegotiate the 2018 ABL Credit Facility to determine the interest rate to replace LIBOR with

the new standard that is established. As such, the potential effect of any such event on our interest expense cannot yet be determined.

A negative shift in investor sentiment of the oil and gas industry could adversely affect our ability to raise debt and equity capital.

Certain segments of the investor community have developed negative sentiment towards investing in our industry. Recent equity returns in the sector versus other industry sectors have led to lower oil and gas representation in certain key equity market indices. In addition, some investors, including investment advisors and certain sovereign wealth funds, pension funds, university endowments, and family foundations, have stated policies to disinvest in the oil and gas sector based on their social and environmental considerations. Certain other stakeholders have also pressured commercial and investment banks to stop financing oil and gas production and related infrastructure projects. Such developments, including environmental activism and initiatives aimed at limiting climate change and reducing air pollution, could result in downward pressure on the stock prices of oil and gas companies, including ours. These developments may also potentially result in a reduction of available capital funding for potential development projects, impacting our future financial results.

Certain of our product lines are subject to the risk of supplier concentration.

Certain of the product lines acquired in the Magnum Acquisition depend on a limited number of third-party suppliers and vendors. As a result of this concentration in some supply chains, our business and operations could be negatively affected if certain key suppliers were to experience significant disruptions affecting the price, quality, availability, or timely delivery of their products. The partial or complete loss of any one of those key suppliers, or a significant adverse change in the relationship with any such suppliers, through consolidation or otherwise, may limit our ability to manufacture and sell certain of our product lines.

Our assets require capital for maintenance, upgrades, and refurbishment, and we may require capital expenditures for new equipment.

Our equipment requires capital investment in maintenance, upgrades, and refurbishment to maintain their competitiveness. For the years ended December 31, 2019 and 2018, we spent approximately \$13.6 million and \$11.6 million, respectively, on capital expenditures related to maintenance. Our equipment typically does not generate revenue while it is undergoing maintenance, refurbishment, or upgrades. Any maintenance, upgrade, or refurbishment project for our assets could increase our indebtedness or reduce cash available for other opportunities. Further, such projects may require proportionally greater capital investments as a percentage of total asset value, which may make such projects difficult to finance on acceptable terms. To the extent we are unable to fund such projects, we may have less equipment available for service or our equipment may not be attractive to potential or current customers. Additionally, competition or advances in technology within our industry may require us to update our products and services. Such demands on our capital or reductions in demand and the increase in cost to maintain labor necessary for such maintenance and improvement, in each case, could have a material adverse effect on our business, liquidity position, financial condition, prospects, and results of operations and may increase costs.

Our future financial condition and results of operations could be adversely impacted by long-lived assets, goodwill, or other asset impairment charges.

Determining whether an impairment exists and the amount of the potential impairment involves quantitative data and qualitative criteria that are based on estimates and assumptions requiring significant management judgment, such as those relating to revenue growth rates, future cash flows, and future market conditions. Future events or new information, including regarding the general economic environment, E&P activity levels, our financial performance and trends, and our strategies and business plans, may change management's valuation of long-lived assets, goodwill, other intangible assets, or other assets in a short amount of time. In particular, prolonged periods of decreased demand, low utilization, changes in technology or market conditions, or sales and other dispositions of assets for amounts less than their carrying value may cause us to recognize impairment charges relating to our long-lived assets, goodwill, other intangible assets, or other assets that reduce our net income.

In 2019, we recorded a goodwill impairment charge of \$20.3 million and an intangible asset impairment charge of \$12.7 million associated with indefinite-lived trade names in our coiled tubing reporting unit within our *Completion Solutions* segment; and an intangible asset impairment charge of \$7.1 million associated with definite-lived customer relationship intangible assets and a property and equipment impairment charge of \$66.2 million in our coiled tubing asset group within our *Completion Solutions* segment. These impairment charges were due to a reduction of the need for coiled tubing during the drill-out phase of the overall completions process due to a recent decline in exploration and production capital budgets and activity, an over-supply of new coiled tubing units and the introduction of dissolvable plug technology. Additionally, in 2019, we

recorded an intangible asset impairment charge of \$95.0 million associated with indefinite-lived trade names in our completion tools reporting unit within our *Completion Solutions* segment and due to the transitioning of certain Magnum trade names to our trade names in order to better funnel and allocate resources, create a stronger identity, facilitate cross-selling, and streamline and simplify communication with existing customers.

In 2018, we recorded a goodwill impairment charge of \$13.0 million, which represents a full write-off of goodwill attributed to our *Production Solutions* segment, an intangible asset impairment charge of \$9.3 million associated with indefinite-lived trade names, an intangible asset impairment charge of \$9.8 million associated with definite-lived customer relationship intangible assets, and a property and equipment impairment charge of \$45.7 million, in each case associated with our *Production Solutions* segment and due to depressed commodity prices towards the end of the fourth quarter of 2018, coupled with customers focusing more on the completions business where there is more technological differentiation and value.

In 2017, we recorded a goodwill impairment charge of \$31.5 million and an intangible asset impairment charge of \$3.8 million associated with definite-lived customer relationship intangible assets, in each case associated with a unit in our *Completion Solutions* segment and due to declining profitability and deteriorating market conditions, which included a shift from open hole completions to significantly less profitable cemented liners.

While we believe our estimates and assumptions used in impairment tests are reasonable, we cannot provide assurance that additional impairment charges in the future will not be required, especially if an economic downturn occurs and continues for a lengthy period or becomes severe or if our acquisitions and investments fail to achieve expected returns. Significant impairment charges as a result of a decline in market conditions or otherwise could have a material adverse effect on our financial condition or results of operations in future periods.

Seasonal and adverse weather conditions adversely affect demand for our products and services.

Weather can have a significant impact on demand for our services and products as consumption of energy is seasonal, and any variation from normal weather patterns or cooler or warmer summers and winters can have a significant impact on demand. In addition, adverse weather conditions, such as hurricanes, tropical storms, and severe cold weather, may interrupt or curtail our operations or our customers' operations, cause supply disruptions, and damage our equipment and facilities, which may or may not be insured. During the winter months (portions of the first and fourth quarters) and periods of heavy snow, ice, or rain, particularly in the northeastern U.S., Michigan, North Dakota, Wyoming, and western Canada, our customers may delay operations, or we may not be able to operate or move our equipment between locations. Also, during the spring thaw, which normally starts in late March and continues through June, some areas, primarily in western Canada, impose transportation restrictions to prevent damage caused by the spring thaw. For the years ended December 31, 2019 and 2018, we generated approximately 2.2% and 3.7%, respectively, of our revenue from our operations in western Canada. Lastly, throughout the year heavy rains adversely affect activity levels because well locations and dirt access roads can become impassible in wet conditions.

In addition, we typically have experienced a pause by our customers around the holiday season in the fourth quarter, which may be compounded as our customers exhaust their annual capital spending budgets towards year end.

Oilfield anti-indemnity provisions enacted by many states may restrict or prohibit a party's indemnification of us.

We typically enter into agreements with our customers governing the provision of our services, which usually include certain indemnification provisions for losses resulting from operations. Such agreements may require each party to indemnify the other against certain claims regardless of the negligence or other fault of the indemnified party; however, many states place limitations on contractual indemnity agreements, particularly agreements that indemnify a party against the consequences of its own negligence. Furthermore, certain states, including Louisiana, New Mexico, Texas, and Wyoming, have enacted statutes generally referred to as "oilfield anti-indemnity acts" expressly prohibiting certain indemnity agreements contained in or related to oilfield services agreements. Such oilfield anti-indemnity acts may restrict or void a party's indemnification of us, which could have a material adverse effect on our business, financial condition, prospects, and results of operations.

The growth of our business through acquisitions may expose us to various risks, including those relating to difficulties in identifying suitable, accretive acquisition opportunities and integrating businesses, assets, systems, and personnel, as well as difficulties in obtaining financing for targeted acquisitions and the potential for increased leverage or debt service requirements.

As a component of our business strategy, we have pursued and may continue to pursue selected, accretive acquisitions of complementary assets, businesses, and technologies, such as the Magnum Acquisition. Acquisitions involve numerous risks, including:

- unanticipated costs and assumption of liabilities and exposure to unforeseen liabilities of acquired businesses, including, but not limited to, environmental liabilities;
- difficulties in integrating the businesses, assets and financial accounting, operating, information and other systems of the acquired business, and the acquired personnel;
- limitations on our ability to properly assess and maintain an effective internal control environment over an acquired business in order to comply with public reporting requirements;
- potential losses of key employees and customers of the acquired businesses;
- inability to commercially develop acquired technologies;
- risks of entering markets in which we have limited prior experience; and
- increases in our expenses and working capital requirements.

The process of integrating an acquired business may involve unforeseen costs and delays or other operational, technical, and financial difficulties and may require a disproportionate amount of management attention and financial and other resources. In addition, even following successful integration, the anticipated benefits of an acquisition may not be realized fully or at all or may take longer to realize than expected. Our failure to achieve consolidation savings, to incorporate the acquired businesses and assets into our existing operations successfully, or to minimize any unforeseen operational difficulties could have a material adverse effect on our financial condition and results of operations.

With respect to the Magnum Acquisition in particular, we are devoting significant management attention and resources to integrating Magnum's business practices, cultures, and operations. Also, we have assumed certain potential liabilities and could be exposed to additional unknown and contingent liabilities associated with Magnum, including post-closing tax obligations and other liabilities for activities of Magnum before the consummation of the Magnum Acquisition, including violations of laws, rules and regulations, commercial disputes, tax liabilities, and other known and unknown liabilities. We have performed a certain level of due diligence in connection with the Magnum Acquisition and have attempted to verify the representations made by Magnum, but there may be liabilities related to Magnum of which we are unaware. There is a risk that we could ultimately be liable for obligations such as post-closing tax obligations relating to Magnum for which indemnification is either not available or not sufficient, which could materially adversely affect our business, results of operations, and cash flow.

There is intense competition for acquisition opportunities in our industry. Competition for acquisitions may increase the cost of, or cause us to refrain from, completing acquisitions. Furthermore, we may not have sufficient capital resources to complete additional acquisitions. Historically, we have financed acquisitions primarily with funding from our equity investors, cash generated by operations, and borrowings. We may incur substantial indebtedness to finance future acquisitions and also may issue equity, debt, or convertible securities in connection with such acquisitions. Any additional debt service requirements could represent a significant burden on our results of operations and financial condition, and the issuance of additional equity or convertible securities could be dilutive to our existing stockholders. Furthermore, we may not be able to obtain additional financing on satisfactory terms. Even if we have access to the necessary capital, we may be unable to continue to identify additional suitable acquisition opportunities, negotiate acceptable terms, or successfully acquire identified targets.

Our ability to grow through acquisitions and manage growth will require us to continue to invest in operational, financial, and management information systems and to attract, retain, motivate, and effectively manage our employees. The inability to effectively manage the integration of acquisitions could reduce our focus on current operations and subsequent acquisitions, which, in turn, could negatively impact our earnings and growth. Our financial position and results of operations may fluctuate significantly from period to period, based on whether or not significant acquisitions are completed in particular periods.

We are subject to federal, state, and local laws and regulations regarding issues of health, safety, and protection of the environment. Under these laws and regulations, we may become liable for penalties, damages, or costs of remediation or other corrective measures. Any changes in laws or government regulations could increase our costs of doing business.

Our operations are subject to stringent federal, state, local, and tribal laws and regulations relating to, among other things, protection of natural resources, clean air and drinking water, wetlands, endangered species, greenhouse gases, nonattainment areas, the environment, occupational health and safety, chemical use and storage, waste management, waste disposal, and transportation of waste and other hazardous and nonhazardous materials. Our operations involve risks of environmental liability, including leakage from an operator's casing during our operations or accidental spills of hazardous materials onto or into surface or subsurface soils, surface water, or groundwater. Some environmental laws and regulations may impose strict liability, joint and several liability, or both. In some situations, we could be exposed to liability as a result of our conduct that was lawful at the time it occurred or the conduct of, or conditions caused by, third parties without regard to whether we caused or contributed to the conditions. Additionally, environmental concerns, including clean air, drinking water contamination, and seismic activity, have prompted investigations that could lead to the enactment of regulations, limitations, restrictions, or moratoria that could potentially have a material adverse impact on our business. Actions arising under these laws and regulations could result in the shutdown of our operations, fines and penalties (administrative, civil, or criminal), revocations of permits to conduct business, expenditures for remediation or other corrective measures, and/or claims for liability for property damage, exposure to hazardous materials, exposure to hazardous waste, nuisance, or personal injuries. Sanctions for noncompliance with applicable environmental laws and regulations may also include the assessment of administrative, civil, or criminal penalties, revocation of permits and temporary or permanent cessation of operations in a particular location, and issuance of corrective action orders. Such claims or sanctions and related costs could cause us to incur substantial costs or losses and could have a material adverse effect on our business, financial condition, prospects, and results of operations. Additionally, an increase in regulatory requirements or limitations, restrictions, or moratoria on oil and natural gas exploration and completion activities at a federal, state, or local level could significantly delay or interrupt our operations, limit the amount of work we can perform, increase our costs of compliance, or increase the cost of our services, thereby possibly having a material adverse impact on our financial condition.

If we do not perform our operations in accordance with government, industry, customer, or our own stringent occupational safety, health, and environmental standards, we could lose business from our customers, many of whom have an increased focus on environmental and safety issues.

We are subject to the oversight of the EPA, the U.S. Department of Transportation (the "DOT"), U.S. Nuclear Regulation Commission, Bureau of Alcohol, Tobacco, Firearms and Explosives, OSHA, and state regulatory agencies that regulate operations to prevent air, soil, and water pollution. The energy extraction sector is one of the sectors designated for increased enforcement by the EPA, which will continue to regulate our industry in the years to come, potentially resulting in additional regulations that could have a material adverse impact on our business, prospects, or financial condition.

The EPA regulates air emissions from all engines, including off-road diesel engines that are used by us to power equipment in the field under the CAA Tier 4 emission standards. The Tier 4 standards (the "Tier 4" standards) require substantial reductions in emissions of particulate matter and nitrous oxide from off-road diesel engines. Such emission reductions can be achieved through the use of appropriate control technologies. Under these U.S. emission control regulations, we could be limited in the number of certain off-road diesel engines we can purchase if we are unable to find a sufficient number of Tier 4-compliant engines from manufacturers. Further, these emission control regulations could result in increased capital and operating costs.

Changes in environmental laws and regulations could lead to material increases in our costs, and liability exposure, for future environmental compliance and remediation. Additionally, if we expand the size or scope of our operations, we could be subject to regulatory requirements that are more stringent than the requirements under which we are currently allowed to operate or require additional authorizations to continue operations. Compliance with this additional regulatory burden could increase our operating or other costs.

We face various risks associated with increased activism against oil and natural gas exploration and development activities.

Opposition toward oil and natural gas drilling and development activity has been growing globally and is particularly pronounced in the United States. Companies in the oil and natural gas industry are often the target of activist efforts from both individuals and non-governmental organizations regarding safety, human rights, environmental matters, sustainability, and business practices. Anti-development activists are working to, among other things, reduce access to federal and state government lands and delay or cancel certain operations such as drilling and development. If activism against oil and natural gas exploration and development persists or increases, there could be a material adverse effect on our business, financial condition, and results of operations.

Federal, state, and local legislative and regulatory initiatives relating to hydraulic fracturing could prohibit, restrict, or limit hydraulic fracturing operations, or increase our operating costs.

Our businesses are dependent on hydraulic fracturing and horizontal drilling activities. Hydraulic fracturing is an important and 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 chemicals under pressure into formations to fracture the surrounding rock and stimulate production, is typically regulated by state oil and natural gas commissions. However, federal agencies have asserted regulatory authority over certain aspects of the process. For example, the EPA has asserted federal regulatory authority pursuant to the federal Safe Drinking Water Act over certain hydraulic fracturing activities involving the use of diesel fuels and published permitting guidance in February 2014 addressing the performance of such activities using diesel fuels.

There is considerable uncertainty surrounding regulation of methane emissions. In 2016, the EPA issued final regulations under the CAA establishing performance standards, including standards for the capture of methane emissions released during hydraulic fracturing. However, the EPA has taken several steps to delay implementation of its methane standards, including most recently in September 2018, when the EPA announced a proposed rule that rolls back parts of the 2016 performance standards. Various industry and environmental groups have separately challenged both the original standards and the EPA's attempts to delay implementation of the rule. Separately, in August 2019, the EPA issued proposed amendments that would rescind requirements related to the regulation of methane emissions from the oil and natural gas industry. Neither rulemaking has been finalized and, therefore, future obligations continue to remain uncertain. In addition, in April 2018, a coalition of states filed a lawsuit in the U.S. District Court for the District of Columbia aiming to force the EPA to establish guidelines for limiting methane emissions from existing sources in the oil and natural gas sector; that lawsuit is pending. On March 20, 2015, the BLM finalized a rule regulating hydraulic fracturing activities on federal lands, including requirements for disclosure, wellbore integrity, and handling of flowback water; however, on December 29, 2017, the BLM issued a rescission of the hydraulic fracturing rule. This rescission and the rule as promulgated are subject to ongoing litigation. The BLM also previously finalized in 2016 similar limitations on methane emissions from venting and flaring and leaking equipment from oil and natural gas activities on public lands, but in September 2018 issued a final rule repealing certain provisions of the 2016 rule and reinstating the pre-2016 regulations. This repeal is the subject of legal challenges. As a result, future implementation of both the EPA and BLM methane rules is uncertain at this time. However, given the long-term trend towards increasing regulation, future federal regulation of methane and other greenhouse gas emissions from the oil and gas industry remains a possibility.

The EPA has also issued effluent limitation guidelines that prohibit the discharge of wastewater from hydraulic fracturing operations to publicly owned wastewater treatment plants. These rules were finalized in June 2016. The EPA is currently conducting a study on effluent guidelines for the oil and gas extraction industry, and a draft of this study was published in May 2019. It is unclear how any additional federal regulation of hydraulic fracturing activities may affect our operations, but additional regulatory burdens on our customers could ultimately result in decreased demand for our products and services.

Various studies analyzing the potential environmental impacts of hydraulic fracturing have also been performed. For example, in December 2016, the EPA released its final report on the potential impacts of hydraulic fracturing on drinking water resources. The final report concluded that "water cycle" activities associated with hydraulic fracturing may impact drinking water resources "under some circumstances," noting that the following hydraulic fracturing water cycle activities and local- or regional-scale factors are more likely than others to result in more frequent or more severe impacts: water withdrawals for fracturing in times or areas of low water availability; surface spills during the management of fracturing fluids, chemicals, or produced water; injection of fracturing fluids into wells with inadequate mechanical integrity; injection of fracturing fluids directly into groundwater resources; discharge of inadequately treated fracturing wastewater to surface waters; and disposal or storage of fracturing wastewater in unlined pits. As described elsewhere in this Annual Report, these risks are regulated under various state, federal, and local laws.

Some states, counties, and municipalities have enacted or are considering moratoria on hydraulic fracturing. For example, New York, Vermont, Maryland, and Washington have banned, or are in the process of banning, the use of high-volume hydraulic fracturing. Alternatively, some municipalities are, or have considered, zoning and other ordinances, the conditions of which could impose a de facto ban on drilling and/or hydraulic fracturing operations. Further, some states, counties, and municipalities are closely examining water use issues, such as permit and disposal options for processed water, which could have a material adverse impact on our financial condition, prospects, and results of operations if such additional permitting requirements are imposed upon our industry. If new laws or regulations that significantly restrict hydraulic fracturing are adopted, such laws could reduce demand for our business by making it more difficult or costly for certain customers to perform fracturing to stimulate production from tight formations. In addition, if hydraulic fracturing becomes regulated at the

federal level as a result of federal legislation or regulatory initiatives by the EPA, the business and operations of our customers could be subject to additional permitting requirements, and also to attendant permitting delays, increased operating and compliance costs, and process prohibitions, which could have an adverse effect on our business, financial condition, and results of operations.

Existing or future laws and regulations related to greenhouse gases and climate change could have a negative impact on our business and may result in additional compliance obligations with respect to the release, capture, and use of greenhouse gases that could have a material adverse effect on our business, results of operations, prospects, and financial condition.

Changes in environmental requirements related to greenhouse gas emissions and climate change may negatively impact demand for our products and services. For example, oil and natural gas E&P may decline as a result of environmental requirements, including land use policies responsive to environmental concerns (e.g., certain cities have banned the use of natural gas in new construction starting in 2020 (e.g., Berkeley and San Jose, CA) or the installation of new natural gas hookups (e.g., Brookline, MA), and other cities (e.g., Seattle, WA) are considering similar initiatives). Federal, state, and local agencies have been evaluating climate-related legislation and other regulatory initiatives that would restrict emissions of greenhouse gases in areas in which we conduct business. Because our business depends on the level of activity in the oil and natural gas industry, existing or future laws and regulations related to greenhouse gases and climate change, including incentives to conserve energy or use alternative energy sources, could have a negative impact on our business if such laws or regulations reduce demand for oil and natural gas. Likewise, such restrictions may result in additional compliance obligations with respect to the release, capture, sequestration, and use of greenhouse gases that could have a material adverse effect on our business, results of operations, prospects, and financial condition. Finally, most scientists have concluded that increasing concentrations of greenhouse gases in the Earth's atmosphere may produce climate changes that could have significant physical effects, such as increased frequency and severity of storms, droughts, floods, and other climatic events; if such effects were to occur, they could have an adverse impact on our operations.

Studies by either state or federal agencies demonstrating a correlation between earthquakes and oil and natural gas activities could result in increased regulatory and operational burdens.

In light of concerns about seismic activity being triggered by the injection of produced waters into underground wells, certain regulators are also considering additional requirements related to seismic safety for hydraulic fracturing activities. A 2015 U.S. Geological Survey report identified eight states, including Texas, with areas of increased rates of induced seismicity that could be attributed to fluid injection or oil and gas extraction. Any regulation that restricts the ability of our customers to dispose of produced waters or increases their cost of doing business could cause them to curtail operation, which in turn could decrease demand for our products and services and have a material adverse effect on our business.

A portion of our revenue is derived from sales to customers outside of the United States, which exposes us to risks inherent in doing business internationally.

In 2019, we derived 5.1% of our revenue from sales to customers outside of the United States. Sales to customers in countries other than the United States are subject to various risks, including:

- volatility in political, social, and economic conditions;
- social unrest, acts of terrorism, war, or other armed conflicts;
- confiscatory taxation or other adverse tax policies;
- deprivation of contract rights;
- trade and economic sanctions or other restrictions imposed by the European Union, the United States, or other countries;
- exposure under the U.S. Foreign Corrupt Practices Act (the "FCPA") or similar legislation, as discussed in the below risk factor; and
- currency exchange controls.

We are subject to complex U.S. and foreign laws and regulations governing anti-corruption and export controls and economic sanctions.

The FCPA, the U.K. Bribery Act ("UKBA"), Canada's Corruption of Foreign Public Officials Act (the "CFPOA"), and

similar anti-bribery and anticorruption laws generally prohibit companies and their intermediaries from making improper payments or improperly providing anything of value for the purpose of obtaining or retaining business. Following the Magnum Acquisition, we now operate and make sales in parts of the world that may be viewed as higher risk for corruption or may have experienced some corruption in the past, and in some instances, strict compliance with the FCPA, UKBA, CFPOA, and similar anti-bribery laws may conflict with local practices. We are also subject to export control and economic sanctions laws and regulations, including those implemented by the U.S. Office of Foreign Assets Control, the U.S. Department of State, the U.S. Department of Commerce, the European Union and its member states, Her Majesty's Treasury of the United Kingdom, and other relevant sanctions authorities. These measures can prohibit or restrict transactions and dealings with certain designated persons and in certain countries in which we conduct business. Despite efforts to ensure compliance, there can be no assurance that our directors, officers, employees, agents, and third-party intermediaries will comply with such laws and regulations. We can be held liable for violations under such laws and regulations either due to our acts or omissions or due to the acts or omissions of others, including intermediaries working on our behalf.

If we fail to comply with applicable laws and regulations, including those referred to above, we may be subject to criminal and civil penalties or other sanctions, which could harm our reputation and have a material adverse impact on our business, financial condition, results of operations, and prospects. Any investigation of any actual or alleged violations of such laws could also harm our reputation or have an adverse impact on our business, financial condition, results of operations, and prospects. Additionally, we could face other third-party claims by agents, stockholders, debt holders, or other interest holders or constituents of our company. Our customers in relevant jurisdictions could seek to impose penalties or take other actions adverse to our interests, and we may be required to dedicate significant time and resources to investigate and resolve allegations of misconduct, regardless of the merit of such allegations. Furthermore, compliance with this additional regulatory burden could increase our operating or other costs.

We may be subject to claims for personal injury and property damage or other litigation, which could materially adversely affect our financial condition, prospects, and results of operations.

Our services are subject to inherent risks that can cause personal injury or loss of life, damage to or destruction of property, equipment, or the environment, or the suspension of our operations. As the wells we service continue to become more complex, our exposure to such inherent risks becomes greater as downhole risks increase exponentially with an increase in complexity and lateral length. Our operations are also exposed to risks of labor organizing and risks of claims for alleged employment-related liabilities, including risks of claims related to alleged wrongful termination or discrimination, wage payment practices, retaliation claims, and other human resource related matters. Litigation arising from operations where our facilities are located, or our services are provided, may cause us to be named as a defendant in lawsuits asserting potentially large claims, including claims for exemplary damages. For example, transportation of heavy equipment creates the potential for our trucks to become involved in roadway accidents, which in turn could result in personal injury or property damages lawsuits being filed against us.

We maintain what we believe is customary and reasonable insurance to protect our business against most potential losses, but such insurance may not be adequate to cover our liabilities, especially as the inherent risks in our operations increase with increasing well complexity, and we are not fully insured against all risks, including alleged employment-related liabilities. Further, our insurance has deductibles or self-insured retentions and contains certain coverage exclusions. The current trend in the insurance industry is towards larger deductibles and self-insured retentions. In addition, insurance may not be available in the future at rates that we consider reasonable and commercially justifiable, compelling us to have larger deductibles or self-insured retentions to effectively manage expenses. As a result, we could become subject to material uninsured liabilities or situations where we have high deductibles or self-insured retentions that expose us to liabilities that could have a material adverse effect on our business, financial condition, prospects, or results of operations.

In recent years, oilfield services companies have been the subject of a significant volume of wage and hour-related litigation, including claims brought under the Fair Labor Standards Act ("FLSA"), in which employee pay practices have been challenged. We have been named as defendants in these lawsuits, and we do not maintain insurance for alleged wage and hour-related litigation. Some of these cases remain outstanding and are in various states of negotiation and/or litigation. The frequency and significance of wage- or other employment-related claims may affect expenses, costs, and relationships with employees and regulators. Additionally, we could become subject to material uninsured liabilities that could have a material adverse effect on our business, financial condition, prospects, or results of operations.

Our operations are subject to cyber security risks that could have a material adverse effect on our results of operations and financial condition.

The efficient operation of our business is dependent on our information technology ("IT") systems. Accordingly, we rely upon the capacity, reliability, and security of our IT hardware and software infrastructure and our ability to expand and

update this infrastructure in response to our changing needs. Our IT systems are subject to possible breaches and other threats that could cause us harm. If our systems for protecting against cyber security risks prove not to be sufficient, we could be adversely affected by, among other things, loss or damage of intellectual property, proprietary information, customer or business data; interruption of business operations; or additional costs to prevent, respond to, or mitigate cyber security attacks. These risks could have a material adverse effect on our business, financial condition, and result of operations and could lead to litigation or regulatory action against us.

Changes in transportation regulations may increase our costs and negatively impact our results of operations.

We are subject to various transportation regulations including as a motor carrier by the DOT and by various federal, state, and tribal agencies, whose regulations include certain permit requirements of highway and safety authorities. These regulatory authorities exercise broad powers over our trucking operations, generally governing such matters as the authorization to engage in motor carrier operations, safety, equipment testing, driver requirements and specifications, and insurance requirements. Certain motor vehicle operators are required to register with the DOT. This registration requires an acceptable operating record. The DOT periodically conducts compliance reviews and may revoke registration privileges based on certain safety performance criteria, and a revocation could result in a suspension of operations. Since 2010, the DOT has pursued its Compliance, Safety, Accountability (“CSA”) program in an effort to improve commercial truck and bus safety. A component of CSA is the Safety Measurement System (“SMS”), which analyzes all safety violations recorded by federal and state law enforcement personnel to determine a carrier’s safety performance. The SMS is intended to allow the DOT to identify carriers with safety issues and intervene to address those problems.

The trucking industry is subject to possible regulatory and legislative changes that may impact our operations, such as changes in fuel emissions limits, hours of service regulations that govern the amount of time a driver may drive or work in any specific period, and limits on vehicle weight and size. For example, in December 2016, the DOT finalized minimum training standards for new drivers seeking a commercial driver’s license, and effective December 2017, the FMCSA has mandated electronic logging devices in all interstate commercial trucks. As the federal government continues to develop and propose regulations relating to fuel quality, engine efficiency, and greenhouse gas emissions, we may experience an increase in costs related to truck purchases and maintenance, impairment of equipment productivity, a decrease in the residual value of vehicles, unpredictable fluctuations in fuel prices, and an increase in operating expenses. Increased truck traffic may contribute to deteriorating road conditions in some areas where our operations are performed. Our operations, including routing and weight restrictions, could be affected by road construction, road repairs, detours, and state and local regulations and ordinances restricting access to certain roads. Proposals to increase federal, state, or local taxes, including taxes on motor fuels, are also made from time to time, and any such increase would increase our operating costs. Also, state and local regulation of permitted routes and times on specific roadways could adversely affect our operations. We cannot predict whether, or in what form, any legislative or regulatory changes or municipal ordinances applicable to our logistics operations will be enacted and to what extent any such legislation or regulations could increase our costs or otherwise adversely affect our business or operations.

We are dependent on customers in a single industry. The loss of one or more significant customers could adversely affect our financial condition, prospects, and results of operations.

Our customers are engaged in the oil and natural gas E&P business, which has been historically volatile. For the year ended December 31, 2019, our five largest customers collectively accounted for approximately 34% of total revenues. If we were to lose several key alliances over a relatively short period of time or if one of our largest customers fails to pay or delays in paying a significant amount of our outstanding receivables, we could experience an adverse impact on our business, financial condition, results of operations, cash flows, and prospects. Additionally, the E&P industry is characterized by frequent consolidation activity. Changes in ownership of our customers may result in the loss of, or reduction in, business from those customers, which could materially and adversely affect our business, financial condition, results of operations, and prospects.

Our executive officers and certain key personnel are critical to our business, and these officers and key personnel may not remain with us in the future.

Our future success depends in substantial part on our ability to hire and retain our executive officers and other key personnel. In particular, we are highly dependent on certain of our executive officers, particularly our President and Chief Executive Officer, Ann G. Fox, and the Chief Operating Officer, David Crombie. These individuals possess extensive expertise, talent, and leadership, and they are critical to our success. The diminution or loss of the services of these individuals, or other integral key personnel affiliated with entities that we acquire in the future, could have a material adverse effect on our business. Furthermore, we may not be able to enforce all of the provisions in any employment agreement we have entered into with certain of our executive officers, and such employment agreements may not otherwise be effective in retaining such individuals. In addition, we may not be able to retain key employees of entities that we acquire in the future, which may impact our ability to successfully integrate or operate the assets we acquire.

A terrorist attack or armed conflict could harm our business.

The occurrence or threat of terrorist attacks in the United States or other countries, anti-terrorist efforts, and other armed conflicts involving the United States or other countries, including continued hostilities in the Middle East, may adversely affect the United States and global economies and could prevent us from meeting financial and other obligations. We could experience loss of business, delays or defaults in payments from payors, or disruptions of fuel supplies and markets if wells, operations sites, or other related facilities are direct targets or indirect casualties of an act of terror or war. Such activities could reduce the overall demand for oil and natural gas, which, in turn, could also reduce the demand for our products and services. Oil and natural gas-related facilities could be direct targets of terrorist attacks, and our operations could be adversely impacted if infrastructure integral to our customers' operations is destroyed or damaged. Costs for insurance and other security may increase as a result of these threats, and some insurance coverage may become more difficult to obtain, if available at all. Terrorist activities and the threat of potential terrorist activities and any resulting economic downturn could adversely affect our results of operations, impair our ability to raise capital, or otherwise adversely impact our ability to realize certain business strategies.

Delays or restrictions in obtaining, or inability to obtain or renew, permits or authorizations by our customers for their operations or by us for our operations could impair our business.

In most states, our operations and the operations of our customers require permits or authorizations from one or more governmental agencies or other third parties to perform drilling and completion and production activities, including hydraulic fracturing. Such permits or approvals are typically required by state agencies, but federal and local governmental permits may also be required. We are also required to obtain federal, state, local, and/or third-party permits and authorizations in some jurisdictions in connection with our wireline services and trucking operations. The requirements for permits or authorizations vary depending on the location where the associated activities will be conducted. As with most permitting and authorization processes, there is a degree of uncertainty as to whether a permit will be granted, the time it will take for a permit or approval to be issued, and the conditions which may be imposed in connection with the granting of the permit. In Texas, rural water districts have begun to impose restrictions on water use and may require permits for water used in drilling and completion activities. In addition, some of our customers' drilling and completion activities may take place on federal land or Native American lands, requiring leases and other approvals from the federal government or Native American tribes to conduct such drilling and completion activities. Permitting, authorization, or renewal delays, the inability to obtain new permits, or the revocation of current permits could cause a loss of revenue and potentially have a materially adverse effect on our business, financial condition, prospects, or results of operations.

Our Canadian operations subject us to currency translation risk, which could cause our results to fluctuate significantly from period to period.

A portion of our revenues is derived from our Canadian activities and operations. As a result, we translate the results of our operations and financial condition of our Canadian operations into U.S. dollars. Therefore, our reported results of operations and financial condition are subject to changes in the exchange rate between the two currencies. Fluctuations in foreign currency exchange rates could affect our revenue, expenses, and operating margins. Currently, we do not hedge our exposure to changes in foreign exchange rates.

Risks Related to Our Common Stock

Significant ownership of our common stock by certain stockholders could adversely affect our other stockholders.

SCF VII, L.P. and SCF-VII(A), L.P. (collectively, "SCF") owned approximately 30% of our outstanding common stock as of December 31, 2019. In addition, certain of our directors are currently employed by SCF. Consequently, SCF is able to strongly influence all matters that require approval by our stockholders, including the election and removal of directors, changes to our organizational documents, and approval of acquisition offers and other significant corporate transactions. In addition, one of the Magnum sellers owned approximately 16% of our outstanding common stock as of December 31, 2019. This concentration of ownership by a small group of stockholders will limit other stockholders' ability to influence corporate matters, and as a result, actions may be taken that other stockholders may not view as beneficial. For example, this concentration of ownership could have the effect of delaying or preventing a change in control or otherwise discouraging a potential acquirer from attempting to obtain control of us, which in turn could cause the market price of our common stock to decline or prevent our stockholders from realizing a premium over the market price for their shares of our common stock. This concentration of stock ownership may also adversely affect the trading price of our common stock to the extent investors perceive a disadvantage in owning stock of a company with significant stockholders.

A significant reduction by SCF of its ownership interests in us could adversely affect us.

We believe that SCF's substantial ownership interest in us provides them with an economic incentive to assist us to be successful. SCF is not subject to any obligation to maintain its ownership interest in us and may elect at any time to sell all or a substantial portion of or otherwise reduce its ownership interest in us. If SCF sells all or a substantial portion of its ownership interest in us, it may have less incentive to assist in our success and its affiliates that serve as members of our board of directors may resign. Such actions could adversely affect our ability to successfully implement our business strategies, which could adversely affect our cash flows or results of operations.

Certain of our directors may have conflicts of interest because they are also directors or officers of SCF. The resolution of these conflicts of interest may not be in our or other stockholders' best interests.

Certain of our directors, namely David C. Baldwin and Andrew L. Waite, are currently officers of SCF's ultimate general partner. In addition, Mr. Baldwin and Mr. Waite are both directors of Forum Energy Technologies, a corporation in which SCF and its affiliates own an approximate 18% equity interest as of December 31, 2019. These positions may conflict with such individuals' duties as one of our directors regarding business dealings and other matters between SCF and us. The resolution of these conflicts may not always be in the best interest of the Company or its stockholders.

SCF and its affiliates are not limited in their ability to compete with us, and the corporate opportunity provisions in our charter could enable SCF to benefit from corporate opportunities that may otherwise be available to us.

SCF and its affiliates have investments in other oilfield service companies that may compete with us, and SCF and its affiliates may invest in such other companies in the future. SCF, its other affiliates, and its other portfolio companies are referred to herein as the "SCF Group." Conflicts of interest could arise in the future between us, on the one hand, and the SCF Group, on the other hand, concerning among other things, potential competitive business activities or business opportunities.

Our charter provides that, to the fullest extent permitted by applicable law, we renounce any interest or expectancy in any business opportunity that involves any aspect of the energy equipment or services business or industry and that may be from time to time presented to SCF or any of our directors or officers who is also an employee, partner, member, manager, officer, or director of any SCF Group entity, even if the opportunity is one that we might reasonably have pursued or had the ability or desire to pursue if granted the opportunity to do so. Our charter further provides that no such person or party shall be liable to us by reason of the fact that such person pursues any such business opportunity or fails to offer any such business opportunity to us. As a result, any of our directors or officers who is also an employee, partner, member, manager, officer, or director of any SCF Group entity may become aware, from time to time, of certain business opportunities, such as acquisition opportunities, and may direct such opportunities to other businesses in which they have invested, in which case we may not become aware of or otherwise have the ability to pursue such opportunity. Further, such businesses may choose to compete with us for these opportunities. As a result, by renouncing our interest and expectancy in any business opportunity that may be from time to time presented to any member of an SCF Group entity or any of our directors or officers who is also an employee, partner, member, manager, officer, or director of any SCF Group entity, our business or prospects could be adversely affected if attractive business opportunities are procured by such parties for their own benefit rather than for ours. Our charter provides that any amendment to or adoption of any provision inconsistent with our charter's provisions governing the renouncement of business opportunities must be approved by the holders of at least 80% of the voting power of the outstanding stock of the corporation entitled to vote thereon. Any actual or perceived conflicts of interest with respect to the foregoing could have an adverse impact on the trading price of our common stock.

Taking advantage of the reduced disclosure requirements applicable to "emerging growth companies" may make our common stock less attractive to investors.

We are an "emerging growth company," as defined in the Jumpstart Our Business Startups Act of 2012 (the "JOBS Act"), and we will remain an emerging growth company until the earliest to occur of (i) the last day of the fiscal year in which we have more than \$1.07 billion in annual revenue; (ii) the date on which we become a "large accelerated filer" (the fiscal year-end on which at least \$700 million of equity securities are held by non-affiliates as of the last day of our then most recently completed second fiscal quarter); (iii) the date on which we have issued, in any three-year period, more than \$1.0 billion in non-convertible debt securities; and (iv) December 31, 2023, which is the last day of the fiscal year ending after the fifth anniversary of the completion of our initial public offering (the "IPO"). An emerging growth company may take advantage of certain reduced reporting and other requirements that are otherwise applicable generally to public companies. Pursuant to these reduced disclosure requirements, emerging growth companies are not required to, among other things, comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002 (the "Sarbanes-Oxley Act"), provide certain disclosures regarding executive compensation, hold stockholder advisory votes on executive compensation, or obtain stockholder approval of any golden parachute payments not previously approved. In addition, emerging growth companies have

longer phase-in periods for the adoption of new or revised financial accounting standards. Under the JOBS Act, emerging growth companies can delay adopting new or revised accounting standards until such time as those standards apply to private companies.

We intend to take advantage of all of the reduced reporting requirements and exemptions, including the longer phase-in periods for the adoption of new or revised financial accounting standards under Section 107 of the JOBS Act, until we are no longer an emerging growth company. If we were to subsequently elect instead to comply with these public company effective dates, such election would be irrevocable pursuant to Section 107 of the JOBS Act.

Our election to use the phase-in periods permitted by this election may make it difficult to compare our financial statements to those of non-emerging growth companies and other emerging growth companies that have opted out of the longer phase-in periods under Section 107 of the JOBS Act and who will comply with new or revised financial accounting standards. We cannot predict if investors will find our common stock less attractive because we will 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 common stock price may be more volatile.

On the other hand, once we are no longer an emerging growth company, compliance with rules and regulations that do not currently apply to us as an emerging growth company will increase our legal and financial compliance costs, may make some activities more difficult, time-consuming, or costly, and will increase demand on our systems and resources.

We have identified material weaknesses in our internal control over financial reporting, with regard to segregation of certain accounting duties. We may identify additional material weaknesses in the future or otherwise fail to maintain an effective system of internal controls, which may result in material misstatements of our financial statements or cause us to fail to meet our reporting obligations.

A material weakness is defined as a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis. In connection with the preparation of our financial statements for the nine months ended September 30, 2017, we identified a material weakness in our internal control over financial reporting, specifically as it related to segregation of certain accounting duties stemming from our decentralized accounting structure and limited number of accounting personnel. We did not design and maintain adequate controls to address segregation of certain accounting duties related to journal entries, account reconciliations, and other accounting functions. Certain accounting personnel had the ability to prepare and post journal entries, as well as reconcile accounts, without an independent review by someone other than the preparer. Specifically, our internal controls were not designed or operating effectively to evidence that journal entries were appropriately recorded or were properly reviewed for validity, accuracy, and completeness. Immaterial misstatements were identified related to the inadequate segregation of accounting duties. This material weakness could result in a misstatement of the aforementioned account balances or disclosures that would result in a material misstatement of the annual or interim consolidated financial statements that would not be prevented or detected. In response to this material weakness, our management has performed or is in the process of performing the remediation steps listed in our Annual Report on Form 10-K for the year ended December 31, 2019.

The material weakness described above or any newly identified material weakness could limit our ability to prevent or detect a misstatement of our accounts or disclosures that could result in a material misstatement of our annual or interim financial statements. We cannot assure you that the measures we have taken to date, or any measures we may take in the future, will be sufficient to remediate the control deficiencies that led to the material weaknesses in our internal control over financial reporting described above or to avoid potential future material weaknesses. 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 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, additional material weaknesses may have been identified.

Effective internal controls are necessary for us to provide reliable financial reports and prevent fraud. If we are unable to successfully remediate our existing or any future 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 significant 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.

If securities or industry analysts do not publish research reports or publish unfavorable research about our business, the price and trading volume of our common stock could decline.

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

Our charter and bylaws contain provisions that could delay, discourage, or prevent a takeover attempt even if a takeover might be beneficial to our stockholders, and such provisions may adversely affect the market price of our common stock.

Provisions contained in our charter and bylaws could make it more difficult for a third party to acquire us. Our charter and bylaws also impose various procedural and other requirements, which could make it more difficult for stockholders to effect certain corporate actions. For example, our charter authorizes our board of directors to determine the rights, preferences, privileges, and restrictions of unissued series of preferred stock without any vote or action by our stockholders. Thus, our board of directors can authorize and issue shares of preferred stock with voting or conversion rights that could adversely affect the voting or other rights of holders of our capital stock. These rights may have the effect of delaying or deterring a change of control of our company. Additionally, for example, our bylaws (i) establish limitations on the removal of directors and on the ability of our stockholders to call special meetings, (ii) include advance notice requirements for nominations for election to our board of directors and for proposing matters that can be acted upon at stockholder meetings, (iii) provide that our board of directors is expressly authorized to adopt, or to alter or repeal, our bylaws, and (iv) provide for a classified board of directors, consisting of three classes of approximately equal size, each class serving staggered three-year terms, so that only approximately one-third of our directors will be elected each year. These provisions could limit the price that certain investors might be willing to pay in the future for shares of our common stock.

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

Our charter and bylaws provide that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware will, to the fullest extent permitted by applicable law, be the sole and exclusive forum for (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers, employees, or agents to us or our stockholders, (iii) any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law (the "DGCL"), our charter or our bylaws, or (iv) any action asserting a claim against us that is governed by the internal affairs doctrine, in each such case subject to such Court of Chancery having personal jurisdiction over the indispensable parties named as defendants therein. These exclusive forum provisions are not intended to apply to actions arising under the Exchange Act or the Securities Act of 1933, as amended. The Court of Chancery of the State of Delaware has recently held that a Delaware corporation can only use its constitutive documents to bind a plaintiff to a particular forum where the claim involves rights or relationships that were established by or under the DGCL.

Any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock will be deemed to have notice of, and consented to, the forum selection provisions of our charter and bylaws. These choice of forum provisions may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers, employees, or agents, which may discourage such lawsuits against us and such persons. Alternatively, if a court were to find these provisions of our charter or bylaws inapplicable to, or unenforceable in respect of, one or more of the specified types of actions or proceedings, we may incur additional costs associated with resolving such matters in other jurisdictions, which could adversely affect our business, financial condition, or results of operations.

We do not intend to pay dividends on our common stock, and our debt agreements place certain restrictions on our ability to do so. Consequently, a stockholder's only opportunity to achieve a return on his investment is if the price of our common stock appreciates.

We do not plan to declare dividends on shares of our common stock in the foreseeable future. Additionally, our debt agreements place certain restrictions on our ability to pay cash dividends. Consequently, unless we revise our dividend policy, a stockholder's only opportunity to achieve a return on his investment in us will be by selling his common stock at a price greater than the stockholder paid for it. There is no guarantee that the price of our common stock that will prevail in the market will ever exceed the price at which a stockholder purchased his shares of our common stock.

Future sales of our common stock in the public market could reduce our stock price, and any additional capital raised by us through the sale of equity or convertible securities may dilute a stockholder's ownership in us.

Sales of a substantial number of shares of our common stock in the public market, or the perception that such sales could occur, could adversely affect the market price of our common stock. We are unable to predict the effect that such sales may have on the prevailing market price of our common stock. SCF and certain of our other stockholders are parties to the Second Amended and Restated Stockholders Agreement, as amended, and the sellers of Magnum are parties to a Registration Rights Agreement, both of which require us to effect the registration of their shares in certain circumstances. In addition, in connection with our IPO, we filed a registration statement on Form S-8 with the SEC providing for the registration of shares of our common stock issued or reserved for issuance under our equity incentive plan. Subject to the satisfaction of vesting conditions and the requirements of Rule 144, shares registered under the registration statement on Form S-8 will be available for resale immediately in the public market without restriction.

We may issue additional capital stock in the future that will result in dilution to all other stockholders. We may also raise capital through equity financings in the future. As part of our business strategy, we may acquire or make investments in complementary companies, products, or technologies and issue equity securities to pay for any such acquisition or investment. Any such issuances of additional capital stock may cause stockholders to experience significant dilution of their ownership interests and the per share value of our common stock to decline.

We may not be able to utilize a portion of our net operating loss carryforwards ("NOLs") to offset future taxable income for U.S. federal or state tax purposes, which could adversely affect our net income and cash flows.

As of December 31, 2019, we had federal and state income tax NOLs of approximately \$202.6 million, which will begin to expire between 2023 and 2034. Utilization of these NOLs depends on many factors, including our future taxable income, which cannot be assured. In addition, Section 382 of the Internal Revenue Code of 1986, as amended ("Section 382"), generally imposes an annual limitation on the amount of an NOL that may be used to offset taxable income when a corporation has undergone an "ownership change" (as determined under Section 382).

Determining the limitations under Section 382 is technical and highly complex. An ownership change generally occurs if one or more stockholders (or groups of stockholders) who are each deemed to own at least 5% of the corporation's stock increase their ownership by more than 50 percentage points over their lowest ownership percentage within a rolling three-year period. In the event that an ownership change has occurred, or were to occur, with respect to a corporation following its recognition of an NOL, utilization of such NOL would be subject to an annual limitation under Section 382, generally determined by multiplying the value of the corporation's stock at the time of the ownership change by the applicable long-term tax-exempt rate (as defined in Section 382). However, this annual limitation would be increased under certain circumstances by recognized built-in gains of the corporation existing at the time of the ownership change. In the case of an NOL that arose in a taxable year beginning before January 1, 2018, any unused annual limitation with respect to an NOL generally may be carried over to later years, subject to the expiration of such NOL 20 years after it arose.

The issuance of additional stock in the IPO, combined with ownership shifts over the rolling three-year period, resulted in an ownership change under Section 382, and we may be prevented from fully utilizing our NOLs prior to their expiration. Future changes in our stock ownership or future regulatory changes could also limit our ability to utilize our NOLs. To the extent we are not able to offset future taxable income with our NOLs, our net income and cash flows may be adversely affected.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

The following table describes the material facilities owned or leased by us as of December 31, 2019.

Segment	Location	Basin/ Region	Leased or Owned	Principal/Most Significant Use
Headquarters	Houston, TX	—	Leased	Corporate Headquarters/Administrative
Completion	Athens, TX	—	Leased	Operations
Completion	Baker, MT	Bakken	Owned	Operations/Administrative
Completion	Canadian County, OK	SCOOP/STACK	Leased	Operations
Completion	Calgary, AB, Canada	—	Leased	Administrative
Completion	Charleroi, PA	Marcellus/Utica	Leased	Operations
Completion	Corpus Christi, TX	—	Leased	Operations/Administrative
Completion	Dickinson, ND	Bakken	Leased	Operations/Administrative
Completion	Enid, OK	SCOOP/STACK	Leased	Operations/Administrative
Completion	Fort Worth, TX	—	Leased	Administrative
Completion	Hobbs, NM	Permian	Leased	Operations
Completion	Jacksboro, TX	Barnett	Leased	Operations
Completion	Marietta, OH	Marcellus/Utica	Leased	Operations/Administrative
Completion	Mead, CO	Rockies	Leased	Operations
Completion	Midland, TX	Permian	Leased	Operations
Completion	Midland, TX	Permian	Owned	Operations/Administrative
Completion	Midland, TX	Permian	Leased	Operations/Administrative
Completion	Midland, TX	Permian	Leased	Operations
Completion	Monahans, TX	Permian	Leased	Operations/Administrative
Completion	Oklahoma City, OK	SCOOP/STACK	Leased	Operations
Completion	Pleasanton, TX	Eagle Ford	Leased	Operations
Completion	Poolville, TX	—	Owned	Operations
Completion	Red Deer, AB, Canada	WCSB	Leased	Operations
Completion	San Antonio, TX	Eagle Ford	Leased	Operations/Administrative
Completion	Shawnee, OK	SCOOP/STACK	Leased	Operations
Completion	Sweetwater, TX	Permian	Leased	Operations
Completion	Ulster, PA	Marcellus/Utica	Leased	Operations
Completion	Tyler, TX	Haynesville	Leased	Operations
Completion	Williston, ND	Bakken	Owned	Operations
Completion	Williston, ND	Bakken	Owned	Operations/Administrative

Item 3. Legal Proceeding

From time to time, we have various claims, lawsuits, and administrative proceedings that are pending or threatened with respect to personal injury, workers' compensation, contractual matters, and other matters. Although no assurance can be given with respect to the outcome of these claims, lawsuits, or proceedings or the effect such outcomes may have, we believe any ultimate liability resulting from the outcome of such claims, lawsuits, or administrative proceedings, to the extent not otherwise provided for or covered by insurance, will not have a material adverse effect on our business, operating results, or financial condition.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

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

Market Information

Nine Energy Service, Inc.’s common stock is traded on the New York Stock Exchange under the symbol “NINE.”

Holders

As of March 5, 2020, we had 52 stockholders of record. The number of record holders does not include persons who held shares of our common stock in nominee or “street name” accounts through brokers.

Dividend Policy

We do not anticipate declaring or paying any cash dividends to holders of our common stock in the foreseeable future. We currently intend to retain future earnings, if any, to fund our operations and to develop and grow our business. Our future dividend policy is within the discretion of our board of directors and will depend upon various factors our board of directors deems relevant, including our results of operations, financial condition, capital requirements, and investment opportunities, as well as any restrictions on our ability to pay cash dividends.

Recent Sales of Unregistered Securities

None.

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

None.

Item 6. Selected Financial Data

This section presents our selected consolidated financial data for the periods and as of the dates indicated. The financial data set forth below, as well as our audited financial statements and related notes, give effect to the Company's merger with Beckman Production Services, Inc. ("Beckman") which was completed on February 28, 2017 and the divestiture of our *Production Solutions* segment on August 30, 2019 as well as the Magnum Acquisition on October 25, 2018 and represent the consolidated results of Nine, Beckman, and their respective subsidiaries. The selected historical consolidated financial data presented below is not intended to replace our historical consolidated financial statements. The following selected consolidated financial data should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Item 7 of Part II and "Financial Statements and Supplementary Data" in Item 8 of Part II of this Annual Report in order to fully understand those factors which may affect the comparability of the information presented below.

Year Ended December 31,

	2019	2018	2017	2016	2015
(in thousands, except share and per share amounts)					
Statement of operations data:					
Revenues	\$ 832,937	\$ 827,174	\$ 543,660	\$ 282,354	\$ 478,522
Cost and expenses					
Cost of revenues (exclusive of depreciation and amortization shown separately below)	669,979	639,298	448,467	246,109	373,191
General and administrative expenses	81,327	73,078	49,505	37,652	43,155
Depreciation	50,544	54,257	53,422	55,260	58,894
Amortization of intangibles	18,367	9,558	8,799	9,083	8,650
Impairment of property and equipment	66,200	45,694	—	—	—
Impairment of goodwill	20,273	12,986	31,530	12,207	35,540
Impairment of intangibles	114,804	19,065	3,800	—	—
(Gain) loss on revaluation of contingent liabilities	(21,187)	3,262	415	1,735	(293)
Loss on sale of subsidiaries	15,896	—	—	—	—
(Gain) loss on sale of property and equipment	(538)	(1,731)	4,688	3,320	2,004
Loss from operations	(182,728)	(28,293)	(56,966)	(83,012)	(42,619)
Interest expense	39,770	22,939	16,252	14,720	10,247
Interest income	(860)	(624)	(549)	(535)	(361)
Loss from continuing operations before income taxes	(221,638)	(50,608)	(72,669)	(97,197)	(52,505)
Provision (benefit) for income taxes	(3,887)	2,375	(4,987)	(26,286)	(14,323)
Loss from continuing operations, net of tax	(217,751)	(52,983)	(67,682)	(70,911)	(38,182)
Loss from discontinued operations, net of tax of \$0, \$0, \$0, \$0, and \$513	—	—	—	—	(935)
Net loss	(217,751)	(52,983)	(67,682)	(70,911)	(39,117)
Other comprehensive income (loss), net of tax					
Foreign currency translation adjustments, net of \$0 tax in each period	376	(1,159)	(198)	210	(4,067)
Total other comprehensive income (loss), net of tax	376	(1,159)	(198)	210	(4,067)
Total comprehensive loss	\$ (217,375)	\$ (54,142)	\$ (67,880)	\$ (70,701)	\$ (43,184)
Historical earnings per share data:					
Weighted average shares outstanding – basic	29,308,107	24,411,213	14,887,006	13,268,540	13,193,380
Loss from continuing operations per share – basic	\$ (7.43)	\$ (2.17)	\$ (4.55)	\$ (5.34)	\$ (2.89)
Loss from discontinued operations per share – basic	—	—	—	—	(0.07)
Loss per share – basic	\$ (7.43)	\$ (2.17)	\$ (4.55)	\$ (5.34)	\$ (2.96)
Weighted average shares outstanding – fully diluted	29,308,107	24,411,213	14,887,006	13,268,540	13,193,380
Loss from continuing operations – fully diluted	\$ (7.43)	\$ (2.17)	\$ (4.55)	\$ (5.34)	\$ (2.89)
Loss from discontinued operations per share – fully diluted	—	—	—	—	(0.07)
Loss per share – fully diluted	\$ (7.43)	\$ (2.17)	\$ (4.55)	\$ (5.34)	\$ (2.96)
Balance sheet data at period end:					
Cash and cash equivalents	\$ 92,989	\$ 63,615	\$ 17,513	\$ 4,074	\$ 18,877
Property and equipment, net	128,604	211,644	259,039	273,210	325,894
Total assets	850,895	1,141,172	578,859	576,094	658,434
Long-term debt	392,059	424,978	—	244,262	249,641
Total stockholders' equity	\$ 389,877	\$ 594,823	\$ 287,358	\$ 288,186	\$ 352,676
Statement of cash flows data:					
Net cash provided by (used in) operating activities	\$ 101,305	\$ 89,577	\$ 5,671	\$ (3,290)	\$ 140,367
Net cash used in investing activities	(34,121)	(389,765)	(44,464)	(4,176)	(19,251)
Net cash provided by (used in) financing activities	\$ (37,905)	346,691	\$ 52,342	\$ (7,315)	\$ (126,878)

All shares and per share data reflect the 8.0256 for 1 stock split that took place in January 2018.

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

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with “Selected Financial Data” in Item 6 of Part II and “Financial Statements and Supplementary Data” in Item 8 of Part II of this Annual Report. A discussion and analysis of our financial condition and results of operations for the year ended December 31, 2017 can be found in Item 7 of our Annual Report on Form 10-K for the year ended December 31, 2018, which was filed with the SEC on March 7, 2019 and is incorporated herein by reference.

This discussion contains forward-looking statements based on our current expectations, estimates, and projections about our operations and the industry in which we operate. Our actual results may differ materially from those anticipated in these forward-looking statements as a result of a variety of risks and uncertainties, including those described under “Risk Factors” in Item 1A of Part I of this Annual Report. We assume no obligation to update any of these forward-looking statements.

Overview

Company Description

We are a leading North American onshore completion services provider that targets unconventional oil and gas resource development. We partner with our E&P customers across all major onshore basins in both the U.S. and Canada as well as abroad to design and deploy downhole solutions and technology to prepare horizontal, multistage wells for production. We focus on providing our customers with cost-effective and comprehensive completion solutions designed to maximize their production levels and operating efficiencies. We believe our success is a product of our culture, which is driven by our intense focus on performance and wellsite execution as well as our commitment to forward-leaning technologies that aid us in the development of smarter, customized applications that drive efficiencies. We provide (i) cementing services, which consist of blending high-grade cement and water with various solid and liquid additives to create a cement slurry that is pumped between the casing and the wellbore of the well, (ii) an innovative portfolio of completion tools, including those that provide pinpoint frac sleeve system technologies as well as a portfolio of completion technologies used for completing the toe stage of a horizontal well and fully-composite, dissolvable, and extended range frac plugs to isolate stages during plug and perf operations, (iii) wireline services, the majority of which consist of plug-and-perf completions, which is a multistage well completion technique for cased-hole wells that consists of deploying perforating guns and isolation tools to a specified depth, and (iv) coiled tubing services, which perform wellbore intervention operations utilizing a continuous steel pipe that is transported to the wellsite wound on a large spool in lengths of up to 30,000 feet and which provides a cost-effective solution for well work due to the ability to deploy efficiently and safely into a live well.

Recent Significant Events

Production Solutions Divestiture

On August 30, 2019, we sold our *Production Solutions* segment for approximately \$17.1 million in cash. In connection with this divestiture, we recorded a loss of \$15.9 million during the year ended December 31, 2019. For additional information on this divestiture, see Note 3 – Divestitures, Acquisitions, and Combinations included in Item 8 of Part II of this Annual Report.

Magnum Acquisition

On October 25, 2018 (the “Magnum Closing Date”), pursuant to the terms of a Securities Purchase Agreement dated October 15, 2018 (as amended on June 7, 2019, the “Magnum Purchase Agreement”), we acquired all of the equity interests of Magnum for approximately \$334.5 million in upfront cash consideration, subject to customary adjustments, and 5.0 million shares of our common stock, which were issued to the sellers of Magnum in a private placement. For additional information on the Magnum Acquisition, see Note 3 – Divestitures, Acquisitions, and Combinations included in Item 8 of Part II of this Annual Report.

The Magnum Purchase Agreement also includes the potential for additional future payments in cash of (i) up to 60% of net income (before interest, taxes, and certain gains or losses) for the “E-Set” tools business in 2019 through 2026 and (ii) up to \$25.0 million based on sales of certain dissolvable plug products in 2019. In 2019, we did not meet the sales requirement of certain dissolvable plug products during the year. For additional information, see Note 12 – Commitments and Contingencies included in Item 8 of Part II of this Annual Report.

How We Generate Revenue and the Costs of Conducting Our Business

We generate our revenues by providing completion services to E&P customers across all major onshore basins in both the U.S. and Canada as well as abroad. We primarily earn our revenues pursuant to work orders entered into with our customers on a job-by-job basis. We typically will enter into an MSA with each customer that provides a framework of general terms and conditions of our services that will govern any future transactions or jobs awarded to us. Each specific job is obtained through competitive bidding or as a result of negotiations with customers. The rate we charge is determined by location, complexity of the job, operating conditions, duration of the contract, and market conditions. In addition to MSAs, we have entered into a select number of longer-term contracts with certain customers relating to our wireline and cementing services, and we may enter into similar contracts from time to time to the extent beneficial to the operation of our business. These longer-term contracts address pricing and other details concerning our services, but each job is performed on a standalone basis.

The principal expenses involved in conducting our business include labor costs, materials and freight, the costs of maintaining our equipment, and fuel costs. Our direct labor costs vary with the amount of equipment deployed and the utilization of that equipment. Another key component of labor costs relates to the ongoing training of our field service employees, which improves safety rates and reduces employee attrition.

How We Evaluate Our Operations

We evaluate our performance based on a number of financial and non-financial measures, including the following:

- *Revenue*: We compare actual revenue achieved each month to the most recent projection for that month and to the annual plan for the month established at the beginning of the year. We monitor our revenue to analyze trends in the performance of our operations compared to historical revenue drivers or market metrics. We are particularly interested in identifying positive or negative trends and investigating to understand the root causes.
- *Adjusted Gross Profit (Excluding Depreciation and Amortization)*: Adjusted gross profit (excluding depreciation and amortization) is a key metric that we use to evaluate operating performance. We define adjusted gross profit (excluding depreciation and amortization) as revenues less direct and indirect costs of revenues (excluding depreciation and amortization). Costs of revenues include direct and indirect labor costs, costs of materials, maintenance of equipment, fuel and transportation freight costs, contract services, crew cost, and other miscellaneous expenses. For additional information, see “Non-GAAP Financial Measures” below.
- *Adjusted EBITDA*: We define Adjusted EBITDA as net income (loss) before interest, taxes, and depreciation and amortization, further adjusted for (i) property and equipment, goodwill, and/or intangible asset impairment charges, (ii) transaction and integration costs related to acquisitions and our IPO, (iii) loss or gain on equity method investment, (iv) loss or gain on revaluation of contingent liabilities, (v) loss or gain on the sale of subsidiaries, (vi) restructuring charges, (vii) stock-based compensation expense, (viii) loss or gain on sale of property and equipment, (ix) other expenses or charges to exclude certain items which we believe are not reflective of ongoing performance of our business, such as legal expenses and settlement costs related to litigation outside the ordinary course of business. For additional information, see “Non-GAAP Financial Measures” below.
- *Return on Invested Capital (“ROIC”)*: We define ROIC as after-tax net operating profit (loss), divided by average total capital. We define after-tax net operating profit (loss) as net income (loss) plus (i) property and equipment, goodwill, and/or intangible asset impairment charges, (ii) transaction and integration costs related to acquisitions and our IPO, (iii) interest expense (income), (iv) restructuring charges, (v) loss or gain on the sale of subsidiaries, and (vi) the provision or benefit for deferred income taxes. We define total capital as book value of equity plus the book value of debt less balance sheet cash and cash equivalents. We compute the average of the current and prior year-end total capital for use in this analysis. For additional information, see “Non-GAAP Financial Measures” below.
- *Safety*: We measure safety by tracking the total recordable incident rate (“TRIR”), which is reviewed on a monthly basis. TRIR is a measure of the rate of recordable workplace injuries, defined below, normalized and stated on the basis of 100 workers for an annual period. The factor is derived by multiplying the number of recordable injuries in a calendar year by 200,000 (i.e., the total hours for 100 employees working 2,000 hours per year) and dividing this value by the total hours actually worked in the year. A recordable injury includes occupational death, nonfatal occupational illness, and other occupational injuries that involve loss of

consciousness, restriction of work or motion, transfer to another job, or medical treatment other than first aid.

Factors Affecting the Comparability of Our Results of Operations

Our future results of operations may not be comparable to our historical results of operations for the periods presented, and our historical results of operations among the periods presented may not be comparable to each other, primarily due to the Magnum Acquisition and our divestiture of the *Production Solutions* segment.

The historical results of operations for the year ended December 31, 2019 include activity related to the Magnum Acquisition whereas the historical results of operations for the year ended December 31, 2018 include activity related to the Magnum Acquisition only after the Magnum Closing Date (October 25, 2018). As a result, the historical results of operations for the year ended December 31, 2018 may not give an accurate indication of what our actual results would have been if the Magnum Acquisition had been completed at the beginning of the period presented, or of what our future results of operations are likely to be for the following reasons:

- As a result of the Magnum Acquisition and the application of purchase accounting, these identifiable net assets have been adjusted to their estimated fair value as of October 25, 2018, the Magnum Closing Date. These adjusted valuations increase our operating expenses in periods after the Magnum Closing Date, primarily due to an increase in the amortization of intangible assets with definite lives.
- Transaction and integration costs associated with the Magnum Acquisition increase operating expenses in periods after the Magnum Closing Date.
- Our completion tools line constitutes a larger portion of our business, due in large part to the Magnum Acquisition.
- We incurred significant indebtedness in connection with the consummation of the Magnum Acquisition, and our related interest expense is expected to be significantly higher than in prior periods

For additional information on the Magnum Acquisition, see Note 3 – Divestitures, Acquisitions, and Combinations included in Item 8 of Part II of this Annual Report on Form 10-K.

Our historical results of operations included in this Annual Report include the impact of the divestiture of the *Production Solutions* segment on August 30, 2019. Future results of operations will not include activity related to the *Production Solutions* segment. For additional information on the divestiture of the *Production Solutions* segment, see Note 3 – Divestitures, Acquisitions, and Combinations included in Item 8 of Part II of this Annual Report on Form 10-K.

Industry Trends and Outlook

Our business depends, to a significant extent, on the level of unconventional resource development activity and corresponding capital spending of oil and natural gas companies. These activity and spending levels are strongly influenced by the current and expected oil and natural gas prices. During 2019, oil prices mostly ranged from \$50 to \$60. At the beginning of 2019, OPEC members and some nonmembers, including Russia, renewed pledges to reduce planned production in an effort to draw down a global oversupply and to rebalance supply and demand. These and other events provided support for an increase in oil prices during the first several months of 2019. As a result of a decrease in global demand for oil and natural gas due to the recent coronavirus outbreaks, in March 2020, members of OPEC and Russia considered extending their agreed oil production cuts and making additional oil production cuts. However, negotiations were unsuccessful; Saudi Arabia has announced a significant reduction in its export prices effective immediately and Russia has announced that all agreed oil production cuts between members of OPEC and Russia will expire on April 1, 2020. Following these announcements, global oil and natural gas prices declined sharply and may continue to decline.

We expect ongoing oil price volatility as output increases over the short term as a result of the events described above, the coronavirus outbreaks continue to develop, and changes in oil inventories, GDP growth, and actual demand growth are reported. Similarly, natural gas prices have decreased significantly throughout 2019 and are expected to continue to be volatile in 2020, causing many operators in the more gas-exposed regions to curtail activity in 2020. Significant factors that are likely to affect 2020 commodity prices include the extent to which members of OPEC and other oil exporting nations continue to reduce oil export prices and increase production; the effect of U.S. energy, monetary, and trade policies; the pace of economic growth in the U.S. and throughout the world, including the potential for macro weakness; geopolitical and economic developments in the U.S. and globally; the outcome of the United States presidential election and subsequent energy and EPA policies; and overall North American natural gas supply and demand fundamentals, including the pace at which export capacity grows.

On average, customer budgets for 2020 are likely to decrease as compared to 2019, which could adversely affect our business. With this overall reduction, there has been a strong commitment from E&P operators to stay within capital budgets, prompting many of them to scale back activity. Even with price improvements in oil and natural gas, operator activity may not materially increase, as operators remain focused on operating within their capital plans. Additionally, if natural gas prices remain depressed in 2020, it could negatively affect activity and pricing in our gas-leveraged regions, specifically in the Marcellus and Utica.

Operators have continued to improve operational efficiencies in completions design, increasing the complexity and difficulty, making oilfield service selection more important. This increase in high-intensity, high-efficiency completions of oil and gas wells further enhances the demand for our services. We compete for the most complex and technically demanding wells in which we specialize, which are characterized by extended laterals, increased stage spacing, multi-well pads, cluster spacing, and high proppant loads. These well characteristics lead to increased operating leverage and returns for us, as we are able to complete more jobs and stages with the same number of units and crews. Service providers for these projects are selected based on their technical expertise and ability to execute safely and efficiently, rather than only price.

Results of Operations

	Year Ended December 31,		
	2019	2018	Change
	(in thousands)		
Revenues			
<i>Completion Solutions</i>	\$ 774,665	\$ 745,316	\$ 29,349
<i>Production Solutions</i>	58,272	81,858	(23,586)
	832,937	\$ 827,174	\$ 5,763
Cost of revenues (exclusive of depreciation and amortization shown separately below)			
<i>Completion Solutions</i>	620,125	568,497	51,628
<i>Production Solutions</i>	49,854	70,801	(20,947)
	669,979	639,298	30,681
Adjusted gross profit			
<i>Completion Solutions</i>	154,540	176,819	(22,279)
<i>Production Solutions</i>	8,418	11,057	(2,639)
	162,958	187,876	(24,918)
General and administrative expenses	81,327	73,078	8,249
Depreciation	50,544	54,257	(3,713)
Amortization of intangibles	18,367	9,558	8,809
Impairment of property and equipment	66,200	45,694	20,506
Impairment of goodwill	20,273	12,986	7,287
Impairment of intangibles	114,804	19,065	95,739
(Gain) loss on revaluation of contingent liabilities	(21,187)	3,262	(24,449)
Loss on sale of subsidiaries	15,896	—	15,896
(Gain) loss on sale of property and equipment	(538)	(1,731)	1,193
Loss from operations	(182,728)	(28,293)	(154,435)
Non-operating expenses	38,910	22,315	16,595
Loss before income taxes	(221,638)	(50,608)	(171,030)
Provision (benefit) for income taxes	(3,887)	2,375	(6,262)
Net loss	\$ (217,751)	\$ (52,983)	\$ (164,768)

Revenues

Revenue increased \$5.8 million, or 1%, to \$832.9 million in 2019. The increase is primarily related to an increase in completion tools revenue, due in large part to a full year of revenue attributed to the Magnum Acquisition in 2019, compared to approximately two months of revenue in 2018. The overall increase in revenue is partially offset with pricing pressure across

other service offerings within the company. The *Completion Solutions* segment depends, to a significant extent, on the level of unconventional resource development activity and corresponding capital spending of oil and natural gas companies onshore in North America. In turn, activity and capital spending are strongly influenced by current and expected oil and natural gas prices. During 2019, the average closing price of oil was \$56.98 per barrel, and the average closing price of natural gas was \$2.56 per MMBtu. During 2018, the average closing price per barrel of oil was \$65.23, and the average closing price of natural gas was \$3.15 per MMBtu.

The overall increase in revenue is also partially offset with a reduction in revenue attributed to the sale of the historical *Production Solutions* segment on August 30, 2019.

Additional information with respect to revenue by historical reportable segment is discussed below.

Completion Solutions: Revenue increased \$29.3 million, or 4%, to \$774.7 million in 2019. The increase in 2019 was primarily related to an increase in completion tools revenue of \$67.6 million, or 57%, as completion tool stages increased 37% and completion tools revenue by stage increased 18%, due in large part to a full year of revenue attributed to the Magnum Acquisition in 2019, compared to approximately two months of revenue in 2018. In addition, cementing revenue (including pump downs) increased \$17.9 million, or 9%, as total cement jobs increased 9% year-over-year. The overall increase in revenue is partially offset by a decrease in coiled tubing revenue of \$48.4 million, or 27%, in 2019 as total days worked decreased by 34% in comparison to 2018. In addition, wireline revenue decreased \$8.1 million, or 3%, in 2019 primarily due to the pricing pressure from its customer base, as discussed above. Total completed wireline stages increased 11% year-over-year.

Production Solutions: Revenue decreased \$23.6 million, or 29%, to \$58.3 million in 2019. The overall decrease in revenue was related to the fact that, given the segment was sold on August 30, 2019, only eight months of revenue was recorded in 2019 compared to a full year of revenue in 2018.

Cost of Revenues (Exclusive of Depreciation and Amortization)

Cost of revenue increased \$30.7 million, or 5%, to \$670.0 million in 2019. The increase was primarily related to additional costs of \$42.9 million for materials installed and consumed while performing services. The increase in these costs was due in large part to a full year of activity attributed to the Magnum Acquisition in 2019, compared to approximately two months of activity in 2018. The overall increase in cost of revenue was partially offset by a decrease of \$11.0 million in employee-related costs, driven in part by the sale of the historical *Production Solutions* segment on August 30, 2019, which reduced headcount year-over-year.

Additional information with respect to cost of revenue by historical reportable segment is discussed below.

Completion Solutions: Cost of revenue increased \$51.6 million, or 9%, to \$620.1 million in 2019 primarily related to additional costs of \$46.7 million for materials installed and consumed while performing services, \$2.5 million in facility costs, and \$2.3 million in employee-related costs. The increase in these costs was due in large part to a full year of activity attributed to the Magnum Acquisition in 2019, compared to approximately two months of activity in 2018. In addition, the overall increase in 2019 was partly related to an increase in cost of revenue type integration costs of \$3.1 million due mainly to the cost of inventory that was stepped up to fair value during purchase accounting for the Magnum Acquisition. Furthermore, the overall increase in cost of revenue was partly related to an increase in severance and other cost of revenue type restructuring charges of \$2.3 million mainly associated with the 2019 wind-down of our wireline service offerings in Canada. The overall increase in cost of revenue in 2019 was partially offset by a decrease of \$5.3 million in other costs, which was mainly driven by reductions in travel and meals and entertainment in comparison to 2018.

Production Solutions: Cost of revenue decreased \$20.9 million, or 30%, to \$49.9 million in 2019. Employee-related costs decreased \$13.3 million, costs related to materials consumed while performing services decreased \$3.8 million, and other costs such as repairs and maintenance, insurance, and vehicle and expense, decreased \$3.6 million in 2019. The primary driver behind the reduction of these costs of revenue related to the fact that, given the sale of the segment on August 30, 2019, only eight months of activity was recorded in 2019 compared to a full year of activity in 2018.

Adjusted Gross Profit

Completion Solutions: Adjusted gross profit (excluding depreciation and amortization) decreased \$22.3 million to \$154.5 million in 2019 as a result of the factors described above under “Revenues” and “Cost of Revenues.”

Production Solutions: Adjusted gross profit (excluding depreciation and amortization) decreased \$2.6 million to \$8.4 million in 2019 as a result of the factors described above under “Revenues” and “Cost of Revenues.”

General and Administrative Expenses

General and administrative expenses increased \$8.2 million to \$81.3 million in 2019. The increase was primarily related to an increase of \$4.8 million in employee-related costs in comparison to 2018. The increase in these costs was due in large part to a full year of activity attributed to the Magnum Acquisition in 2019, compared to approximately two months of activity in 2018. The increase is also partly related to an increase in severance and other general and administrative type restructuring charges of \$1.6 million mainly associated with the 2019 wind-down of our wireline service offerings in Canada, coupled with an increase in professional fees of \$1.3 million, primarily related consulting costs. General and administrative expenses as a percentage of revenue was 9.8% for 2019, compared to 8.8% for 2018.

(Gain) Loss on Revaluation of Contingent Liabilities

We recorded a \$21.2 million gain on the revaluation of contingent liabilities in 2019 in comparison to a \$3.3 million loss on the revaluation of contingent liabilities recorded in 2018. The gain was primarily the result of the company not meeting the earnout requirements for the sale of certain dissolvable plug products in 2019 associated with the Magnum Acquisition, which contributed to the reduction in fair value of contingent liabilities year-over-year.

(Gain) Loss on Sale of Subsidiaries

We recorded a \$15.9 million loss on the sale of subsidiaries in 2019 associated with the sale of the historical *Production Solutions* segment. We did not record a loss on the sale of subsidiaries in 2018.

Depreciation

Depreciation expense decreased \$3.7 million to \$50.5 million in 2019. The overall decrease was primarily within service offerings in the historical *Production Solutions* segment as we recorded a property and equipment impairment charge recorded in the fourth quarter of 2018. Furthermore, any remaining property and equipment associated with the historical *Production Solutions* segment was sold on August 30, 2019. The overall decrease in depreciation expense was partially offset with an increase in depreciation expense associated with certain service offerings the *Completion Solutions* segment, which increased capital expenditures year-over-year.

Amortization of Intangibles

Amortization of intangibles increased \$8.8 million to \$18.4 million in 2019, primarily due to a \$10.3 million increase in amortization associated with intangible assets acquired as part of the Magnum Acquisition and the acquisition of Frac Technology AS, a Norwegian private limited company. The overall increase was partially offset by a reduction in amortization associated with intangible assets in the historical *Production Solutions* segment, which were fully impaired in the fourth quarter of 2018, as well as a reduction in amortization associated with certain service offerings in the *Completion Solutions* segment, where the intangible asset reached its full finite life.

Impairment of Property and Equipment

In 2019, we recorded a property and equipment impairment charge of \$66.2 million in our *Completion Solutions* segment due to a reduction of the need for coiled tubing during the drill-out phase of the overall completions process due to a recent decline in exploration and production capital budgets and activity, an over-supply of new coiled tubing units, and the introduction of dissolvable plug technology.

In 2018, we recorded a property and equipment impairment charge of \$45.7 million in our *Production Solutions* segment due to deteriorating market conditions attributed to depressed commodity prices towards the end of the fourth quarter of 2018, coupled with customers focusing more on the completions business where there is more technological differentiation and value.

Impairment of Goodwill

In 2019, we recorded a goodwill impairment charge of \$20.3 million in our *Completion Solutions* segment due to a reduction of the need for coiled tubing during the drill-out phase of the overall completions process due to a recent decline in exploration and production capital budgets and activity, an over-supply of new coiled tubing units, and the introduction of dissolvable plug technology.

In 2018, we recorded a goodwill impairment charge of \$13.0 million, which represented a full write-off of goodwill in our *Production Solutions* segment due to deteriorating market conditions attributed to depressed commodity prices towards the

end of the fourth quarter of 2018, coupled with customers focusing more on the completions business where there is more technological differentiation and value.

Impairment of Intangibles

In 2019, we recorded intangible asset impairment charges of \$107.7 million associated with indefinite-lived trade names and an intangible asset impairment charge of \$7.1 million associated with definite-lived customer relationship intangible assets, all within our *Completion Solutions* segment. These intangible asset impairment charges were primarily due to the transitioning of certain Magnum trade names to our trade names. These intangible asset impairment charges are also partly attributed to a reduction of the need for coiled tubing during the drill-out phase of the overall completions process due to a recent decline in exploration and production capital budgets and activity, an over-supply of new coiled tubing units, and the introduction of dissolvable plug technology.

In 2018, we recorded an intangible asset impairment charge of \$9.3 million associated with indefinite-lived trade names and an intangible asset impairment charge of \$9.8 million associated with definite-lived customer relationship intangible assets, all within our *Production Solutions* segment, and primarily due to deteriorating market conditions attributed to depressed commodity prices towards the end of the fourth quarter of 2018, coupled with customers focusing more on the completions business where there is more technological differentiation and value.

Non-Operating Expenses

Non-operating expenses increased \$16.6 million to \$38.9 million in 2019. The increase in comparison to 2018 was primarily related to an increase in interest expense related to higher indebtedness and an increased interest rate in conjunction with the Senior Notes, which were entered into in the fourth quarter of 2018 in connection with the Magnum Acquisition.

Provision (Benefit) for Income Taxes

Our effective tax rate was 1.8% for 2019 and (4.7)% for 2018. The valuation allowance against our deferred tax assets results in tax expense that does not directly correlate with changes in our income levels. Our tax benefit for 2019 is comprised of tax amortization and impairment of indefinite-lived intangible assets, which are excluded when calculating the amount of valuation allowance needed, offset by state jurisdictions where income is expected to exceed available net operating losses.

Adjusted EBITDA

Adjusted EBITDA decreased \$28.0 million to \$113.0 million for 2019. The Adjusted EBITDA decrease is primarily due to the changes in revenue and expenses discussed above. See “Non-GAAP Financial Measures” below for further explanation.

Non-GAAP Financial Measures

EBITDA and Adjusted EBITDA

EBITDA and Adjusted EBITDA are supplemental non-GAAP financial measures that are used by management and external users of our financial statements, such as industry analysts, investors, lenders, and rating agencies.

We define EBITDA as net income (loss) before interest, depreciation, amortization of intangibles, and provision (benefit) for income taxes.

We define Adjusted EBITDA as EBITDA further adjusted for (i) property and equipment, goodwill, and/or intangible asset impairment charges, (ii) transaction and integration costs related to acquisitions and our IPO, (iii) loss or gain on equity investment method, (iv) loss or gain on revaluation of contingent liabilities, (v) loss or gain on the sale of subsidiaries, (vi) restructuring charges, (vii) stock-based compensation expense, (viii) loss or gain on sale of property and equipment, and (ix) other expenses or charges to exclude certain items which we believe are not reflective of ongoing performance of our business, such as legal expenses and settlement costs related to litigation outside the ordinary course of business.

Management believes EBITDA and Adjusted EBITDA are useful because they allow us to more effectively evaluate our operating performance and compare the results of our operations from period to period without regard to our financing methods or capital structure. We exclude the items listed above from net income in arriving at these measures because these amounts can vary substantially from company to company within our industry depending upon accounting methods and book values of assets, capital structures, and the method by which the assets were acquired. These measures should not be considered as an alternative to, or more meaningful than, net income as determined in accordance with accounting principles generally accepted in the United States of America (“GAAP”) or as an indicator of our operating performance. Certain items excluded from these measures are significant components in understanding and assessing a company’s financial performance, such as a company’s cost of capital and tax structure, as well as the historic costs of depreciable assets, none of which are components of these measures. Our computations of these measures may not be comparable to other similarly titled measures of other companies. We believe that these are widely followed measures of operating performance.

The following table presents a reconciliation of the non-GAAP financial measures of EBITDA and Adjusted EBITDA to the GAAP financial measure of net income (loss):

	Year Ended December 31,	
	2019	2018
	(in thousands)	
EBITDA reconciliation:		
Net loss	\$ (217,751)	\$ (52,983)
Interest expense	39,770	22,939
Interest income	(860)	(624)
Depreciation	50,544	54,257
Amortization of intangibles	18,367	9,558
Provision (benefit) for income taxes	(3,887)	2,375
EBITDA	\$ (113,817)	\$ 35,522
Adjusted EBITDA reconciliation:		
EBITDA	\$ (113,817)	\$ 35,522
Impairment of property and equipment	66,200	45,694
Impairment of goodwill	20,273	12,986
Impairment of intangibles	114,804	19,065
Transaction and integration costs	13,047	10,327
Loss on equity method investment	—	347
(Gain) loss on revaluation of contingent liabilities	(21,187)	3,262
Loss on sale of subsidiaries	15,896	—
Restructuring charges	3,976	—
Stock-based compensation expense	14,057	13,221
Loss on sale of property and equipment	(538)	(1,731)
Legal fees and settlements ⁽²⁾	307	2,358
Adjusted EBITDA	\$ 113,018	\$ 141,051

(1) Amounts relate to the revaluation of contingent liabilities associated with our recent acquisitions. The impact is included in our Consolidated Statements of Income and Comprehensive Income (Loss). For additional information on contingent liabilities, see Note 12 – Commitments and Contingencies included Item 8 of Part II of this Annual Report.

(2) Amounts represent fees and legal settlements associated with legal proceedings brought pursuant to the FLSA and/or similar state laws.

Return on Invested Capital

ROIC is a supplemental non-GAAP financial measure. We define ROIC as after-tax net operating profit (loss), divided by average total capital. We define after-tax net operating profit (loss) as net income (loss) plus (i) property and equipment, goodwill, and/or intangible asset impairment charges, (ii) transaction and integration costs related to acquisitions and our IPO, (iii) interest expense (income), (iv) restructuring charges, (v) loss or gain on the sale of subsidiaries, and (vi) the provision or benefit for deferred income taxes. We define total capital as book value of equity plus the book value of debt less balance sheet cash and cash equivalents. We then take the average of the current and prior year-end total capital for use in this analysis.

Management believes ROIC is a meaningful measure because it quantifies how well we generate operating income relative to the capital we have invested in our business and illustrates the profitability of a business or project taking into account the capital invested. Management uses ROIC to assist them in capital resource allocation decisions and in evaluating business performance. Although ROIC is commonly used as a measure of capital efficiency, definitions of ROIC differ, and our computation of ROIC may not be comparable to other similarly titled measures of other companies.

The following table provides an explanation of our calculation of ROIC for the years ended December 31, 2019 and 2018:

	Year Ended December 31,	
	2019	2018
	(in thousands)	
Net loss	\$ (217,751)	\$ (52,983)
Add back:		
Impairment of property and equipment	66,200	45,694
Impairment of goodwill	20,273	12,986
Impairment of intangibles	114,804	19,065
Transaction and integration costs	13,047	10,327
Interest expense	39,770	22,939
Interest income	(860)	(624)
Restructuring charges	3,976	—
Loss on sale of subsidiaries	15,896	—
Provision (benefit) for deferred income taxes	(4,327)	898
After-tax net operating profit	\$ 51,028	\$ 58,302
Total capital as of prior year-end:		
Total stockholders' equity	\$ 594,823	\$ 287,358
Total debt	435,000	242,235
Less cash and cash equivalents	(63,615)	(17,513)
Total capital as of prior year-end	\$ 966,208	\$ 512,080
Total capital as of year-end:		
Total stockholders' equity	\$ 389,877	\$ 594,823
Total debt	400,000	435,000
Less cash and cash equivalents	(92,989)	(63,615)
Total capital as of year-end	\$ 696,888	\$ 966,208
Average total capital	\$ 831,548	\$ 739,144
ROIC	6.1%	7.9%

Adjusted Gross Profit (Excluding Depreciation and Amortization)

GAAP defines gross profit as revenues less cost of revenues and includes depreciation and amortization in costs of revenues. We define adjusted gross profit (excluding depreciation and amortization) as revenues less direct and indirect costs of revenues (excluding depreciation and amortization). This measure differs from the GAAP definition of gross profit because we do not include the impact of depreciation and amortization, which represent non-cash expenses.

Management uses adjusted gross profit (excluding depreciation and amortization) to evaluate operating performance. We prepare adjusted gross profit (excluding depreciation and amortization) to eliminate the impact of depreciation and amortization because we do not consider depreciation and amortization indicative of our core operating performance. Adjusted gross profit (excluding depreciation and amortization) should not be considered as an alternative to gross profit (loss), operating income (loss), or any other measure of financial performance calculated and presented in accordance with GAAP. Adjusted gross profit (excluding depreciation and amortization) may not be comparable to similarly titled measures of other companies because other companies may not calculate adjusted gross profit (excluding depreciation and amortization) or similarly titled measures in the same manner as we do.

The following table presents a reconciliation of adjusted gross profit (excluding depreciation and amortization) to GAAP gross profit (loss).

	Year Ended December 31,	
	2019	2018
	(in thousands)	
Calculation of gross profit		
Revenues	\$ 832,937	\$ 827,174
Cost of revenues (exclusive of depreciation and amortization shown separately below)	669,979	639,298
Depreciation (related to cost of revenues)	47,006	53,358
Amortization of intangibles	18,367	9,558
Gross profit	\$ 97,585	\$ 124,960
Adjusted gross profit (excluding depreciation and amortization) reconciliation:		
Gross profit	\$ 97,585	\$ 124,960
Depreciation (related to cost of revenues)	47,006	53,358
Amortization of intangibles	18,367	9,558
Adjusted gross profit (excluding depreciation and amortization)	\$ 162,958	\$ 187,876

Liquidity and Capital Resources

Sources and Uses of Liquidity

Historically, we have met our liquidity needs principally from cash flows from operating activities, external borrowings, proceeds from the IPO, and capital contributions (prior to the IPO). Our principal uses of cash are to fund capital expenditures and acquisitions, to service our outstanding debt, and to fund our working capital requirements. In 2018, we issued \$400.0 million of Senior Notes to, together with cash on hand and borrowings under the 2018 ABL Credit Facility (as defined below), fund the Magnum Acquisition as well as fully repay and terminate the term loan borrowings and the outstanding revolving credit commitments under our prior credit facility. For additional information regarding the Senior Notes, see Note 9 – Debt Obligations included in Item 8 of Part II of this Annual Report. In the third quarter of 2019, we divested the *Production Solutions* segment for approximately \$17.1 million in cash. We plan to use such proceeds to fund a portion of our 2020 capital expenditures.

We continually monitor potential capital sources, including equity and debt financing, to meet our investment and target liquidity requirements. Our future success and growth will be highly dependent on our ability to continue to access outside sources of capital. In addition, our ability to satisfy our liquidity requirements depends on our future operating performance, which is affected by prevailing economic conditions, the level of drilling, completion and production activity for North American onshore oil and natural gas resources, and financial and business and other factors, many of which are beyond our control.

Our total 2019 capital expenditure budget, excluding possible acquisitions, was between \$60.0 million and \$70.0 million, and the actual amount of capital expenditures incurred in 2019 was \$62.1 million. Our capital expenditure budget for 2020, excluding possible acquisitions, is expected to be between \$20.0 million and \$25.0 million. The nature of our capital expenditures is comprised of a base level of investment required to support our current operations and amounts related to growth and company initiatives. Capital expenditures for growth and company initiatives are discretionary. We continually evaluate our capital expenditures and the amount we ultimately spend will depend on a number of factors including expected industry activity levels and company initiatives.

At December 31, 2019, we had \$93.0 million of cash and cash equivalents and \$99.2 million of availability under the 2018 ABL Credit Facility, which resulted in a total liquidity position of \$192.2 million. Based on our current forecasts, we believe that borrowings under the 2018 ABL Credit Facility, together with cash flows from operations, should be sufficient to fund our capital requirements for at least the next twelve months from the issuance date of our consolidated financial statements. However, we can make no assurance regarding our ability to achieve our forecasts. Furthermore, depending on our financial performance, we may implement certain cost-cutting measures, as necessary, to continue to meet our liquidity and capital resource needs for at least the next twelve months from the issuance date of our consolidated financial statements. We can make no assurance regarding our ability to successfully implement such measures, or whether such measures would be sufficient to mitigate a decline in our financial performance.

Although we do not budget for acquisitions, pursuing growth through acquisitions may continue to be a significant part of our business strategy. Our ability to make significant additional acquisitions for cash will require us to obtain additional equity or debt financing, which we may not be able to obtain on terms acceptable to us or at all.

Senior Notes

On October 25, 2018, we issued \$400.0 million principal amount of Senior Notes. The proceeds from the Senior Notes, together with cash on hand and borrowings under the 2018 ABL Credit Facility (as defined below), were used to (i) fund a portion of the upfront cash purchase price of the Magnum Acquisition, (ii) repay all indebtedness under the credit facility entered into in conjunction with our IPO, and (iii) pay fees and expenses associated with the issuance of the Senior Notes, the Magnum Acquisition, and the 2018 ABL Credit Facility (as defined below). For additional information on the Senior Notes, see Note 9 – Debt Obligations included in Item 8 of Part II of this Annual Report.

2018 ABL Credit Facility

On October 25, 2018, we entered into a credit agreement dated as of October 25, 2018 (the “2018 ABL Credit Agreement”), that permits aggregate borrowings of up to \$200.0 million, subject to a borrowing base, including a Canadian tranche with a sub-limit of up to \$25.0 million and a sub-limit of \$50.0 million for letters of credit (the “2018 ABL Credit Facility”). The 2018 ABL Credit Facility will mature on October 25, 2023 or, if earlier, on the date that is 180 days before the scheduled maturity date of the Senior Notes if they have not been redeemed or repurchased by such date.

Loans to us and our domestic related subsidiaries (the “U.S. Credit Parties”) under the 2018 ABL Credit Facility may be base rate loans or LIBOR loans; and loans to Nine Energy Canada Inc., a corporation organized under the laws of Alberta, Canada, and its restricted subsidiaries (the “Canadian Credit Parties”) under the Canadian tranche may be CDOR loans or Canadian prime rate loans. The applicable margin for base rate loans and Canadian prime rate loans vary from 0.75% to 1.25% and the applicable margin for LIBOR loans or CDOR loans vary from 1.75% to 2.25% in each depending on our leverage ratio. In addition, a commitment fee of 0.50% per annum will be charged on the average daily unused portion of the revolving commitments.

The 2018 ABL Credit Agreement contains various affirmative and negative covenants, including financial reporting requirements and limitations on indebtedness, liens, mergers, consolidations, liquidations and dissolutions, sales of assets, dividends and other restricted payments, investments (including acquisitions) and transactions with affiliates. In addition, the 2018 ABL Credit Agreement contains a minimum fixed charge ratio covenant of 1.00 to 1.00 that is tested quarterly when the availability under the 2018 ABL Credit Facility drops below a certain threshold or a default has occurred until the availability exceeds such threshold for 30 consecutive days and such default is no longer outstanding. We were in compliance with all covenants under the 2018 ABL Credit Agreement as of December 31, 2019.

All of the obligations under the 2018 ABL Credit Facility are secured by first priority perfected security interests (subject to permitted liens) in substantially all of the personal property of U.S. Credit Parties, excluding certain assets. The obligations under the Canadian tranche are further secured by first priority perfected security interests (subject to permitted liens) in substantially all of the personal property of Canadian Credit Parties excluding certain assets. The 2018 ABL Credit Facility is guaranteed by the U.S. Credit Parties, and the Canadian tranche is further guaranteed by the Canadian Credit Parties and the U.S. Credit Parties.

At December 31, 2019, our availability under the 2018 ABL Credit Facility was approximately \$99.2 million, net of an outstanding letter of credit of \$0.2 million. During the second quarter of 2019, we repaid our outstanding revolver borrowings in full, and at December 31, 2019, we had no outstanding revolver borrowings.

Cash Flows

Our cash flows for the years ended December 31, 2019, and 2018 are presented below:

	Year Ended December 31,	
	2019	2018
	(in thousands)	
Operating activities	\$ 101,305	\$ 89,577
Investing activities	(34,121)	(389,765)
Financing activities	(37,905)	346,691
Impact of foreign exchange rate on cash	95	(401)
Net change in cash and cash equivalents	<u>\$ 29,374</u>	<u>\$ 46,102</u>

Operating Activities

Net cash provided by operating activities was \$101.3 million in 2019 compared to \$89.6 million in net cash provided by operating activities in 2018. The \$11.7 million increase in net cash provided by operating activities was primarily a result of a \$54.5 million increase in cash collections and other changes in working capital which provided an increased source of cash flow in 2019 in comparison to 2018. The overall increase in net cash provided by operating activities was partially offset by a \$42.8 million decrease in cash flow provided by continuing operations, adjusted for any non-cash items, primarily due to a reduction in cash operating income driven by a deterioration in market conditions year-over-year.

Investing Activities

Net cash used in investing activities was \$34.1 million in 2019 compared to \$389.8 million in net cash used in investing activities in 2018. The \$355.7 million decrease in net cash used in investing activities was primarily related to a \$350.0 million reduction in cash flow used in acquisitions in 2019 compared to 2018, as well as \$16.9 million in proceeds received from the sale of our *Production Solutions* segment in 2019. In addition, the decrease in net cash used was partly due to an increase of \$4.7 million in proceeds received in 2019 from notes receivable payments as well as an increase of \$1.5 million in 2019 in cash payments received from the proceeds from the sale of property and equipment. The overall decrease in net cash used in investing activities was partially offset by an increase of \$18.5 million in cash purchases of property and equipment in 2019 compared to 2018.

Financing Activities

Net cash used in financing activities was \$37.9 million in 2019 compared to \$346.7 million in net cash provided by financing activities in 2018. The \$384.6 million decrease in net cash provided by financing activities was primarily related to \$171.8 million in proceeds received from the IPO and issuances of common stock in 2018 and \$400.0 million in proceeds received from the Senior Notes in 2018 that did not recur in 2019. In addition, net cash provided by financing activities decreased \$3.6 million in 2019 related to an increase in restricted stock vests and options exercised during the year. The overall decrease in net cash provided by financing activities was partially offset by a decrease in net payments made on prior term loans of \$146.0 million in 2019 and a reduction of \$16.3 million in deferred financing costs paid in 2019 compared to 2018. The overall decrease in net cash provided by financing activities was also partially offset by a reduction in net payments on revolving credit facilities in 2019 of \$26.2 million.

Contractual Obligations

In the normal course of business, we enter into various contractual obligations that impact or could impact our liquidity. The table below contains our known contractual commitments at December 31, 2019.

	Payments Due by Period for the Year Ended December 31,						Thereafter	Total
	2020	2021	2022	2023	2024			
	(in thousands)							
Senior Notes ⁽¹⁾	\$ —	\$ —	\$ —	\$ 400,000	\$ —	\$ —	\$ 400,000	
2018 ABL Credit Facility ⁽²⁾	—	—	—	—	—	—	—	
Interest expense ⁽³⁾	35,000	35,000	35,000	28,575	—	—	133,575	
Capital leases	1,253	1,253	1,099	66	—	—	3,671	
Operating leases	10,597	8,504	7,485	6,649	4,470	17,105	54,810	
Total	\$ 46,850	\$ 44,757	\$ 43,584	\$ 435,290	\$ 4,470	\$ 17,105	\$ 592,056	

(1) Includes principal only.

(2) The amount presented in the table above represents the outstanding principal borrowings under the 2018 ABL Credit Facility as of December 31, 2019 and does not include future commitment fees, amortization of deferred financing costs, interest expense, or other fees. These outstanding principal borrowings must be repaid prior to the maturity date, which is October 25, 2023 or, if earlier, on the date that is 180 days before the scheduled maturity date of the Senior Notes if they have not been redeemed or repurchased by such date. Any future borrowings or repayments could change the total amount outstanding under the 2018 ABL Credit Facility.

(3) Consists of fixed rate interest on the Senior Notes as of December 31, 2019.

In addition, at December 31, 2019, we have recorded certain contingent liabilities associated with recent acquisitions. For additional information, see Note 12 – Commitments and Contingencies included in Item 8 of Part II of this Annual Report.

Off-Balance Sheet Arrangements

At December 31, 2019, we had a letter of credit of \$0.2 million, which represented an off-balance sheet arrangement as defined in Item 303(a)(4)(ii) of Regulation S-K. As of December 31, 2019, no liability has been recognized in our Consolidated Balance Sheets for the letter of credit.

Critical Accounting Policies

The discussion and analysis of our financial condition and results of operations are based upon our financial statements, which have been prepared in accordance with GAAP. The preparation of our financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. Certain accounting policies involve judgments and uncertainties to such an extent that there is a reasonable likelihood that materially different amounts could have been reported under different conditions, or if different assumptions had been used. We evaluate our estimates and assumptions on a regular basis. We base our estimates on historical experience and various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates and assumptions used in preparation of our financial statements. We provide expanded discussion of our more significant accounting policies, estimates, and judgments below. We believe that

most of these accounting policies reflect our more significant estimates and assumptions used in preparation of our financial statements.

Emerging Growth Company Status

We are an “emerging growth company” as defined in the JOBS Act. Under Section 107 of the JOBS Act, as an emerging growth company, we are taking advantage of an extended transition period for the adoption of new or revised financial accounting standards, including the reduced reporting requirements and exemptions, and the longer phase-in periods for the adoption of new or revised financial accounting standards, until we are no longer an emerging growth company. Our election to use the longer phase-in periods permitted by this election may make it difficult to compare our financial statements to those of non-emerging growth companies and other emerging growth companies that have opted out of the longer phase-in periods under Section 107 of the JOBS Act and who will comply with new or revised financial accounting standards. If we were to subsequently elect instead to comply with these public company effective dates, such election would be irrevocable pursuant to Section 107 of the JOBS Act.

Revenue Recognition

For information about our revenue, see Note 4 – Revenue included in Item 8 of Part II of this Annual Report.

Property and Equipment

Property and equipment is stated at cost and depreciated under the straight-line method over the estimated useful lives of the asset. Equipment held under capital leases is stated at the present value of its future minimum lease payments and is depreciated under the straight-line method over the shorter of the lease term or the estimated useful life of the asset. When assets are retired or otherwise disposed of, the cost and related accumulated depreciation are removed from the accounts and any resulting gain or loss is recognized within operating expenses. Normal repair and maintenance costs are charged to operating expense as incurred. Significant renewals and betterments are capitalized.

Valuation of Long-Lived Assets

Long-lived assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. In performing the review for impairment, future cash flows expected to result from the use of the asset and its eventual disposal are estimated. If the undiscounted future cash flows are less than the carrying amount of the assets, there is an indication that the asset may be impaired. The amount of the impairment is measured as the difference between the carrying value and the Level 3 fair value of the asset. The Level 3 fair value is determined either through the use of an external valuation, or by means of an analysis of discounted future cash flows based on expected utilization. Determining fair value requires the use of estimates and assumptions. Such estimates and assumptions include revenue growth rates, operating profit margins, weighted average costs of capital, terminal growth rates, future market share, the impact of new product development, and future market conditions, among others. We believe that the estimates and assumptions used in impairment assessments are reasonable and appropriate. Impairment losses are reflected in “Income (loss) from operations” in our Consolidated Statements of Income and Comprehensive Income (Loss).

In the fourth quarter of 2019, we recorded a property and equipment impairment charge of \$66.2 million and a definite-lived customer relationship intangible asset impairment charge of \$7.1 million. These impairment charges represent the difference between the carrying value and the estimated fair value of the long-lived assets in our coiled tubing asset group within our *Completion Solutions* segment and were due to a reduction of the need for coiled tubing during the drill-out phase of the overall completions process due to a recent decline in exploration and production capital budgets and activity, an over-supply of new coiled tubing units, and the introduction of dissolvable plug technology.

In the fourth quarter of 2018, we recorded a property and equipment impairment charge of \$45.7 million and a definite-lived customer relationship intangible asset impairment charge of \$9.8 million. These impairment charges represent the difference between the carrying value and the estimated fair value of the long-lived assets associated with our *Production Solutions* segment and were due to deteriorating conditions attributed to depressed commodity prices towards the end of the fourth quarter of 2018, coupled with customers focusing more on the completions business where there is more technological differentiation and value. On August 30, 2019, we sold our *Production Solutions* segment to Brigade.

For additional information on these impairment charges, see Note 6 – Property and Equipment included in Item 8 of Part II of this Annual Report.

For additional information on the *Production Solutions* divestiture, see Note 3 – Divestitures, Acquisitions, and Combinations included in Item 8 of Part II of this Annual Report.

Valuation of Goodwill and Intangible Assets

Goodwill has an indefinite useful life and is not subject to amortization. Intangible assets with indefinite useful lives (specifically trademarks and trade names) are also not subject to amortization. For goodwill and intangible assets with indefinite useful lives, an assessment for impairment is performed annually on December 31 or when there is an indication an impairment may have occurred. Goodwill is reviewed for impairment by comparing the carrying value of each of our reporting unit's net assets (including allocated goodwill) to the Level 3 fair value of our reporting unit. The Level 3 fair value of our reporting unit is determined by using the income approach (discounted cash flows of forecasted income). Intangible assets with indefinite useful lives are reviewed for impairment by comparing the carrying value of the intangible asset to the Level 3 fair value of the intangible asset. The Level 3 fair value of intangible assets with indefinite useful lives (specifically trademarks and trade names) is estimated using the relief-from-royalty method of the income approach. This approach is based on the assumption that in lieu of ownership, a company would be willing to pay a royalty in order to exploit the related benefits of this intangible asset. Determining fair value requires the use of estimates and assumptions. Such estimates and assumptions include revenue growth rates, operating profit margins, royalty rates, weighted average costs of capital, terminal growth rates, future market share, the impact of new product development, and future market conditions, among others. We believe that the estimates and assumptions used in impairment assessments are reasonable and appropriate. We recognize a goodwill impairment charge for the amount by which the carrying value of goodwill exceeds our reporting unit's Level 3 fair value. We recognize an indefinite-lived intangible asset impairment charge of the amount by which the carrying value of the intangible asset exceeds the Level 3 fair value of the intangible asset. Any impairment losses are reflected in "Income (loss) from operations" in our Consolidated Statements of Income and Comprehensive Income (Loss).

Intangible assets with definite lives include technology, customer relationships, and non-compete agreements. The Level 3 fair value of technology and the Level 3 fair value of customer relationships are estimated using the income approach, specifically the multi-period excess earnings method. The multi-period excess earnings method consists of isolating the cash flows attributed to the intangible asset, which are then discounted to present value to calculate the Level 3 fair value of the intangible asset. The Level 3 fair value of non-compete agreements is estimated using a with and without scenario where cash flows are projected through the term of the non-compete agreement assuming the non-compete agreement is in place and compared to cash flows assuming the non-compete agreement is not in place.

Intangible assets with definite lives are amortized based on the estimated consumption of the economic benefit over their estimated useful lives. Intangible assets with definite lives are tested for impairment whenever events or changes in circumstances indicate that their carrying amount may not be recoverable.

In the fourth quarter of 2019, in connection with our annual goodwill impairment test, we recorded a goodwill impairment charge of \$20.3 million, in our coiled tubing reporting unit within our *Completion Solutions* segment. In addition, in the fourth quarter of 2019, in connection with our annual indefinite-lived intangible asset impairment test, we recorded an intangible asset impairment charge of \$12.7 million associated with the indefinite-lived trade names in our coiled tubing reporting unit and an intangible asset impairment charge of \$95.0 million associated with the indefinite-lived trade names in our completion tools reporting unit, both within our *Completion Solutions* segment. As described above in "Critical Accounting Policies – Valuation of Long-Lived Assets" and also in the fourth quarter of 2019, we recorded an intangible asset impairment charge of \$7.1 million associated with the definite-lived customer relationship intangible assets in our coiled tubing asset group within our *Completion Solutions* segment.

In the fourth quarter of 2018, in connection with our annual goodwill impairment test, we recorded a goodwill impairment charge of \$13.0 million, which represented a full write-off of goodwill attributed to our *Production Solutions* segment. In addition, in the fourth quarter of 2018, in connection with our annual indefinite-lived intangible asset impairment test, we recorded an intangible asset impairment charge of \$9.3 million associated with indefinite-lived trade names in our *Production Solutions* segment. As described above in "Critical Accounting Policies – Valuation of Long-Lived Assets" and also in the fourth quarter of 2018, we recorded an intangible asset impairment charge of \$9.8 million related to definite-lived customer relationship intangible assets associated with our *Production Solutions* segment. On August 30, 2019, we sold our *Production Solutions* segment to Brigade Energy Service LLC ("Brigade").

For additional information on goodwill and both indefinite-lived and definite-lived intangible asset impairment charges, see Note 7 – Goodwill and Intangible Assets included in Item 8 of Part II of this Annual Report.

For additional information on the *Production Solutions* divestiture, see Note 3 – Divestitures, Acquisitions, and Combinations included in Item 8 of Part II of this Annual Report.

Recognition of Provisions for Contingencies

In the ordinary course of business, we are subject to various claims, suits, and complaints. We, in consultation with internal and external advisors, will provide for a contingent loss in the financial statements if it is probable that a liability has been incurred at the date of the financial statements and the amount can be reasonably estimated. If it is determined that the reasonable estimate of the loss is a range and that there is no best estimate within the range, provision will be made for the lower amount of the range. Legal costs are expensed as incurred.

Stock-based Compensation

We account for awards of stock-based compensation at fair value on the date granted to employees and recognize the compensation expense in the financial statements over the requisite service period. Fair value of the stock-based compensation was measured using the Black-Scholes model for all of the options outstanding. These models require assumptions and estimates for inputs, especially the estimate of the volatility in the value of the underlying share price, that affect the resultant values and hence the amount of compensation expense recognized. We determine the estimate of volatility periodically based on the weighted averages for the stocks of comparable publicly traded companies. Fair value of the stock-based compensation was measured using a Monte Carlo simulation model for all of the performance share units outstanding. Forfeitures are recorded as they occur. All stock-based compensation expense is recorded using the straight-line method and is included in "General and administrative expenses" in our Consolidated Statements of Income and Comprehensive Income (Loss).

Determining Fair Market Value

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 stock-based compensation expense could be materially different in the future. We estimate 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.

Expected Life – The expected term of stock options represents the period the stock options are expected to remain outstanding and is based on the simplified method, which is the weighted average vesting term plus the original contractual term, divided by two.

Expected Volatility – Prior to our IPO, when our stock was not publicly traded, we determined volatility based on an analysis of the PHLX Oil Service Index that tracks publicly traded oilfield service stocks. Subsequent to our IPO and as a publicly traded company, we develop our expected volatility based upon a weighted average volatility of our peer group.

Risk-free Interest Rate – The risk-free interest rates for options granted are based on the average of five year and seven year constant maturity Treasury bond rates whose term is consistent with the expected term of an option from the date of grant.

Expected Term – 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.

Recent Accounting Pronouncements

For additional information on recent accounting pronouncements, see Note 2 – Significant Accounting Policies included in Item 8 of Part II of this Annual Report.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

We are exposed to market risk in the ordinary course of our business. Market risk represents the risk of loss that may impact our financial position due to adverse changes in financial market prices and rates. Our market risk exposure is primarily a result of fluctuations in commodity prices and non-U.S. currency exchange rates.

Commodity Price Risk

Our fuel purchases expose us to commodity price risk. Our fuel costs consist primarily of diesel fuel used by our various trucks and other motorized equipment. The prices for fuel are volatile and are impacted by changes in supply and demand, as well as market uncertainty and regional shortages. Recently we have been able to pass along price increases to our customers; however, we may be unable to do so in the future. As of December 31, 2019, we were not engaged in commodity price hedging activities, and we are not currently engaged in such activities.

Non-U.S. Currency Exchange Rates

Our operating facilities are in the U.S. and Canadian markets, and as a result our primary exposure to fluctuations in currency exchange rates relates to fluctuations between the U.S. dollar and the Canadian dollar. In Canada, the effects of currency fluctuations are largely mitigated because local expenses of such operations are also generally denominated in the local currency. However, there may be instances in which costs and revenue will not be matched with respect to currency denomination, and we may experience economic loss and a negative impact on earnings or net assets solely as a result of foreign currency exchange rate fluctuations. We do not hedge our exposure to changes in foreign exchange rates. For additional information on risk associated with Non-U.S. currency exchange rates, see “Risk Factors” in Item 1A of Part I of this Annual Report.

Assets and liabilities for which the functional currency is the local currency are translated using the exchange rates in effect at the balance sheet date, resulting in translation adjustments that are reflected as “Accumulated other comprehensive income (loss)” in the stockholders’ equity section on our Consolidated Balance Sheets. We recorded adjustments to our equity account of approximately \$0.4 million and \$1.2 million for the years ended December 31, 2019 and 2018, respectively, to reflect the net impact of the changes in the strength of the Canadian dollar against the U.S. dollar.

Item 8. Financial Statements and Supplementary Data

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of Nine Energy Service, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Nine Energy Service, Inc. and its subsidiaries (the “Company”) as of December 31, 2019 and 2018, and the related consolidated statements of income and comprehensive income (loss), of stockholders’ equity and of cash flows for each of the three years in the period ended December 31, 2019, 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, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019 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 9, 2020

We have served as the Company’s auditor since 2011.

NINE ENERGY SERVICE, INC.
CONSOLIDATED BALANCE SHEETS
(In thousands, except share and per share amounts)

	December 31,	
	2019	2018
Assets		
Current assets		
Cash and cash equivalents	\$ 92,989	\$ 63,615
Accounts receivable, net	96,889	154,783
Income taxes receivable	660	—
Inventories, net	60,945	91,435
Prepaid expenses and other current assets	17,434	15,717
Notes receivable from shareholders (Note 15)	—	7,626
Total current assets	268,917	333,176
Property and equipment, net	128,604	211,644
Definite-lived intangible assets, net	147,991	173,451
Goodwill	296,196	307,804
Indefinite-lived intangible assets	1,000	108,711
Other long-term assets	8,187	6,386
Total assets	\$ 850,895	\$ 1,141,172
Liabilities and Stockholders' Equity		
Current liabilities		
Accounts payable	\$ 35,490	\$ 46,132
Accrued expenses	24,730	61,434
Current portion of capital lease obligations	995	665
Income taxes payable	—	57
Total current liabilities	61,215	108,288
Long-term liabilities		
Long-term debt	392,059	424,978
Deferred income taxes	1,588	5,915
Long-term capital lease obligations	2,201	2,330
Other long-term liabilities	3,955	4,838
Total liabilities	461,018	546,349
Commitments and contingencies (Note 12)		
Stockholders' equity		
Common stock (120,000,000 shares authorized at \$.01 par value; 30,555,677 and 30,163,408 shares issued and outstanding at December 31, 2019 and 2018 respectively)	306	302
Additional paid-in capital	758,853	746,428
Accumulated other comprehensive loss	(4,467)	(4,843)
Accumulated deficit	(364,815)	(147,064)
Total stockholders' equity	389,877	594,823
Total liabilities and stockholders' equity	\$ 850,895	\$ 1,141,172

All share data reflects the 8.0256 for 1 stock split that took place in January 2018.

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

NINE ENERGY SERVICE, INC.
CONSOLIDATED STATEMENTS OF INCOME AND COMPREHENSIVE INCOME (LOSS)
(In thousands, except share and per share amounts)

	Year Ended December 31,		
	2019	2018	2017
Revenues (Note 4)			
Service	\$ 646,508	\$ 708,750	\$ 483,959
Product	186,429	118,424	59,701
	<u>832,937</u>	<u>827,174</u>	<u>543,660</u>
Cost and expenses			
Cost of revenues (exclusive of depreciation and amortization shown separately below)			
Service	528,643	550,840	403,643
Product	141,336	88,458	44,824
General and administrative expenses	81,327	73,078	49,505
Depreciation	50,544	54,257	53,422
Amortization of intangibles	18,367	9,558	8,799
Impairment of property and equipment	66,200	45,694	—
Impairment of goodwill	20,273	12,986	31,530
Impairment of intangibles	114,804	19,065	3,800
(Gain) loss on revaluation of contingent liabilities	(21,187)	3,262	415
Loss on sale of subsidiaries	15,896	—	—
(Gain) loss on sale of property and equipment	(538)	(1,731)	4,688
Loss from operations	(182,728)	(28,293)	(56,966)
Interest expense	39,770	22,939	16,252
Interest income	(860)	(624)	(549)
Loss before income taxes	(221,638)	(50,608)	(72,669)
Provision (benefit) for income taxes	(3,887)	2,375	(4,987)
Net loss	\$ (217,751)	\$ (52,983)	\$ (67,682)
Loss per share			
Basic	\$ (7.43)	\$ (2.17)	\$ (4.55)
Diluted	\$ (7.43)	\$ (2.17)	\$ (4.55)
Weighted average shares outstanding			
Basic	29,308,107	24,411,213	14,887,006
Diluted	29,308,107	24,411,213	14,887,006
Other comprehensive income (loss), net of tax			
Foreign currency translation adjustments, net of \$0 tax in each period	\$ 376	\$ (1,159)	\$ (198)
Total other comprehensive income (loss), net of tax	376	(1,159)	(198)
Total comprehensive loss	<u>\$ (217,375)</u>	<u>\$ (54,142)</u>	<u>\$ (67,880)</u>

All share data reflects the 8.0256 for 1 stock split that took place in January 2018.

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

NINE ENERGY SERVICE, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(In thousands, except share amounts)

	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Income (Loss)	Retained Earnings (Accumulated Deficit)	Total Stockholders' Equity
	Shares	Amounts				
Stockholders' equity as of December 31, 2016	13,386,986	\$ 134	\$ 317,937	\$ (3,486)	\$ (26,399)	\$ 288,186
Issuance of common stock	2,501,643	25	61,897	—	—	61,922
Distribution to non-accredited investors	(78,089)	(1)	(2,437)	—	—	(2,438)
Stock-based compensation expense	—	—	7,568	—	—	7,568
Other comprehensive loss	—	—	—	(198)	—	(198)
Net loss	—	—	—	—	(67,682)	(67,682)
Stockholders' equity as of December 31, 2017	15,810,540	\$ 158	\$ 384,965	\$ (3,684)	\$ (94,081)	\$ 287,358
Issuance of common stock in IPO, net of offering costs	8,050,000	81	168,180	—	—	168,261
Issuance of common stock under stock compensation plan	1,166,587	12	(12)	—	—	—
Issuance of common stock for acquisitions	5,015,745	50	177,797	—	—	177,847
Stock-based compensation expense	—	—	13,221	—	—	13,221
Exercise of stock options	135,817	1	2,904	—	—	2,905
Vesting of restricted stock	(28,324)	—	(927)	—	—	(927)
Other issuances of common stock	13,043	—	300	—	—	300
Other comprehensive loss	—	—	—	(1,159)	—	(1,159)
Net loss	—	—	—	—	(52,983)	(52,983)
Stockholders' equity as of December 31, 2018	30,163,408	\$ 302	\$ 746,428	\$ (4,843)	\$ (147,064)	\$ 594,823
Issuance of common stock under stock compensation plan	462,622	5	(5)	—	—	—
Stock-based compensation expense	—	—	14,057	—	—	14,057
Exercise of stock options	674	—	15	—	—	15
Vesting of restricted stock	(71,027)	(1)	(1,642)	—	—	(1,643)
Other comprehensive income	—	—	—	376	—	376
Net loss	—	—	—	—	(217,751)	(217,751)
Stockholders' equity as of December 31, 2019	30,555,677	\$ 306	\$ 758,853	\$ (4,467)	\$ (364,815)	\$ 389,877

All share data reflect the 8.0256 for 1 stock split that took place in January 2018.

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

NINE ENERGY SERVICE, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	Year Ended December 31,		
	2019	2018	2017
Cash flows from operating activities			
Net loss	\$ (217,751)	\$ (52,983)	\$ (67,682)
Adjustments to reconcile net loss to net cash provided by operating activities			
Depreciation	50,544	54,257	53,422
Amortization of intangibles	18,367	9,558	8,799
Amortization of deferred financing costs	2,984	2,966	1,615
Provision for (recovery of) doubtful accounts	849	(268)	176
Provision (benefit) for deferred income taxes	(4,327)	898	(5,815)
Provision for inventory obsolescence	5,148	844	1,359
Impairment of property and equipment	66,200	45,694	—
Impairment of goodwill	20,273	12,986	31,530
Impairment of intangibles	114,804	19,065	3,800
Stock-based compensation expense	14,057	13,221	7,568
(Gain) loss on sale of property and equipment	(538)	(1,731)	4,688
(Gain) loss on revaluation of contingent liabilities (Note 12)	(21,187)	3,262	415
Loss on sale of subsidiaries	15,896	—	—
Loss on equity method investment	—	347	368
Changes in operating assets and liabilities, net of effects from acquisitions			
Accounts receivable, net	41,852	(24,972)	(52,180)
Inventories, net	22,545	(15,041)	(8,212)
Prepaid expenses and other current assets	2,395	(5,722)	1,472
Accounts payable and accrued expenses	(27,901)	27,156	12,530
Income taxes receivable/payable	(294)	(255)	15,158
Other assets and liabilities	(2,611)	295	(3,340)
Net cash provided by operating activities	101,305	89,577	5,671
Cash flows from investing activities			
Acquisitions, net of cash acquired	1,020	(349,986)	—
Proceeds from sale of subsidiaries	16,914	—	—
Proceeds from sales of property and equipment	3,702	2,183	1,452
Proceeds from property and equipment casualty losses	1,576	1,743	300
Proceeds from notes receivable payments	7,626	2,941	—
Purchases of property and equipment	(64,959)	(46,646)	(45,216)
Equity method investment	—	—	(1,000)
Net cash used in investing activities	(34,121)	(389,765)	(44,464)
Cash flows from financing activities			
Proceeds from revolving credit facilities	10,000	35,000	56,481
Payments on revolving credit facilities	(45,000)	(96,182)	(38,287)
Proceeds from Senior Notes	—	400,000	—
Proceeds from term loan	—	125,000	—
Payments on term loans	—	(270,975)	(22,475)
Payments on notes payable – insurance premium financing	—	—	(272)
Payments on capital leases	(903)	(128)	—
Payments of contingent liabilities	(374)	(3,445)	(1,325)
Proceeds from issuance of common stock in IPO, net of offering costs	—	171,450	—
Proceeds from other issuances of common stock	—	300	61,374
Proceeds from exercise of stock options	15	2,905	—
Vesting of restricted stock	(1,643)	(927)	—
Distribution to non-accredited investors	—	—	(2,438)
Cost of debt issuance	—	(16,307)	(716)

Net cash provided by (used in) financing activities	(37,905)	346,691	52,342
Impact of foreign currency exchange on cash	95	(401)	(110)
Net increase in cash and cash equivalents	29,374	46,102	13,439
Cash and cash equivalents			
Cash and cash equivalents at beginning of period	63,615	17,513	4,074
Cash and cash equivalents at end of period	<u>\$ 92,989</u>	<u>\$ 63,615</u>	<u>\$ 17,513</u>

Supplemental disclosures of cash flow information:

Cash paid for interest	\$ 37,376	\$ 5,981	\$ 14,987
Cash paid (refunded) for income taxes	\$ 517	\$ 1,697	\$ (14,344)

Non-cash investing and financing activities:

Issuance of common stock related to business acquisitions	\$ —	\$ 177,847	\$ 547
Contingent liability related to business acquisitions	\$ —	\$ 23,982	\$ —
Capital expenditures in accounts payable and accrued expenses	\$ 10	\$ 4,476	\$ 1,675
Property and equipment obtained by capital leases	\$ 1,621	\$ 3,123	\$ —
Receivable from property and equipment sale (including insurance)	\$ 5,949	\$ 1,199	\$ —

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

NINE ENERGY SERVICE, INC.
NOTES TO THE FINANCIAL STATEMENTS

1. Company and Organization

Company Description

Nine Energy Service, Inc. (the “Company” or “Nine”), a Delaware corporation, is an oilfield services business that provides services integral to the completion of unconventional wells through a full range of tools and methodologies. The Company is headquartered in Houston, Texas.

Production Solutions Divestiture

On August 30, 2019, the Company entered into a Membership Interest Purchase Agreement (“*Production Solutions* Purchase Agreement”) with Brigade Energy Service LLC (“Brigade”). Pursuant to the *Production Solutions* Purchase Agreement, on such date, through the sale of all of the limited liability interests of its wholly owned subsidiary, Beckman Holding Production Services, LLC, the Company sold its *Production Solutions* segment to Brigade for approximately \$17.1 million in cash. The *Production Solutions* Purchase Agreement contains customary representations and warranties, covenants, and indemnification provisions. The Company recorded a loss of \$15.9 million in connection with this divestiture during the year ended December 31, 2019. For additional information on the divestiture of the *Production Solutions* segment, see Note 3 – Divestitures, Acquisitions, and Combinations.

Magnum Acquisition

On October 25, 2018, pursuant to the terms of a Securities Purchase Agreement, dated October 15, 2018 (as amended on June 7, 2019, the “Magnum Purchase Agreement”), the Company acquired all of the equity interests of Magnum Oil Tools International, LTD, Magnum Oil Tools GP, LLC, and Magnum Oil Tools Canada Ltd. (such entities collectively, “Magnum” and such acquisition, the “Magnum Acquisition”) for approximately \$334.5 million in upfront cash consideration, subject to customary adjustments, and 5.0 million shares of the Company’s common stock, which were issued to the sellers of Magnum in a private placement. The Magnum Purchase Agreement also includes the potential for additional future payments in cash of (i) up to 60% of net income (before interest, taxes, and certain gains or losses) for the “E-Set” tools business in 2019 through 2026 and (ii) up to \$25.0 million based on sales of certain dissolvable plug products in 2019. For additional information on the Magnum Acquisition, see Note 3 – Divestitures, Acquisitions, and Combinations.

Initial Public Offering

In January 2018, the Company completed its initial public offering (“IPO”) of 8,050,000 shares of common stock (including 1,050,000 shares pursuant to an over-allotment option) at a price to the public of \$23.00 per share pursuant to a registration statement on Form S-1 (File 333-217601), as amended and declared effective by the Securities and Exchange Commission on January 18, 2018.

Beckman Combination

On February 28, 2017, pursuant to the terms and conditions of a combination agreement dated February 3, 2017, the Company merged with Beckman Production Services, Inc. (“Beckman”), and all of the issued and outstanding shares of Beckman common stock were converted into shares of common stock of Nine Energy Service, Inc. (the “Beckman Combination”). Prior to the Beckman Combination, SCF-VII, L.P. had controlled a majority of the voting interests of Nine and Beckman since February 28, 2011 and July 31, 2012, respectively. The merger of the entities into the combined company was accounted for using reorganization accounting (i.e., “as if” pooling of interest) for entities under common control. For additional information on the Beckman Combination, see Note 3 – Divestitures, Acquisitions, and Combinations.

2. Significant Accounting Policies

Basis of Presentation

The accompanying consolidated financial statements are prepared in accordance with accounting principles generally accepted in the United States of America (“GAAP”).

Principles of Consolidation

The consolidated financial statements as of December 31, 2019 and 2018, and for the years ended December 31, 2019, 2018, and 2017, include the accounts of Nine and Beckman and their wholly owned subsidiaries. For additional information on the history of Nine, see Note 1 – Company and Organization. All inter-company balances and transactions have been eliminated in the consolidation.

Use of Estimates

The preparation of 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. Actual results could differ from those estimates. These estimates are based on management’s best knowledge of current events and actions that the Company may undertake in the future. Such estimates include fair value assumptions used in purchase accounting and in analyzing goodwill, definite and indefinite-lived intangible assets, and property and equipment for possible impairment, useful lives used in depreciation and amortization expense, stock-based compensation fair value, estimated realizable value on excess and obsolete inventories, deferred taxes and income tax contingencies, and losses on accounts receivable. It is at least reasonably possible that the estimates used will change within the next year.

Reclassifications

Certain reclassifications have been made to prior period amounts to conform to the current period financial statement presentation. These reclassifications primarily relate to presenting “(Gain) loss on revaluation of contingent liabilities” and “Interest income” as separate line items in the Company’s Consolidated Statements of Income and Comprehensive Income (Loss).

Revenue Recognition

For information regarding the Company’s revenue, see Note 4 – Revenue.

Cash and Cash Equivalents

The Company considers all highly liquid debt instruments with a maturity of three months or less when purchased to be cash equivalents. Throughout the year, the Company maintained cash balances that were in excess of their federally insured limits. The Company has not experienced any losses in such accounts.

Cash flows from the Company’s Canadian subsidiary are calculated based on its functional currency. As a result, amounts related to changes in assets and liabilities reported in the Company’s Consolidated Statements of Cash Flows will not necessarily agree to changes in the corresponding balances in the Company’s Consolidated Balance Sheets.

Foreign Currency

The Company’s functional currency is the U.S. Dollar (“USD”). The financial position and results of operations of the Company’s Canadian subsidiary are measured using the local currency as the functional currency. Revenues and expenses of the subsidiary 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 date of the Company’s Consolidated Balance Sheets. The resulting translation gain and loss adjustments have been recorded as a separate component of other comprehensive income (loss) in the Company’s Consolidated Statements of Income and Comprehensive Income (Loss) and its Consolidated Statements of Changes in Stockholders’ Equity.

Accounts Receivable

The Company extends credit to customers in the normal course of business. Accounts receivable are carried at their estimated collectible amount. Trade credit is generally extended on a short-term basis; thus, receivables do not bear interest.

although a finance charge may be applied to amounts past due. The Company maintains an allowance for doubtful accounts for estimated losses that may result from the inability of its customers to make required payments. 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 receivable outstanding longer than contractual terms are considered past due. The Company writes off accounts receivable to the allowance for doubtful accounts when they become uncollectible. Any payments subsequently received on receivables previously written off are credited to bad debt expense.

The Company had \$96.9 million and \$154.8 million of “Accounts receivable, net” at December 31, 2019 and 2018, respectively. The Company maintains an allowance for doubtful accounts based on the expected collectability of accounts receivable, which is included in “Accounts receivable, net” on the Company’s Consolidated Balance Sheets. The Company had an allowance for doubtful accounts of \$0.8 million and \$0.5 million at December 31, 2019 and 2018, respectively. Bad debt expense was \$0.8 million for the year ended December 31, 2019, while bad debt expense recoveries was \$0.3 million for the year ended December 31, 2018. Bad debt expense was \$0.2 million for the year ended December 31, 2017.

Concentration of Credit Risk

The Company derives a significant portion of its revenues from companies in the exploration and production (“E&P”) industry, and its customer base includes a broad range of integrated and independent domestic E&P companies and international E&P companies operating in the markets that the Company serves. While current energy prices are important contributors to positive cash flow for the customers, expectations about future prices and price volatility are generally more important for determining future spending levels. Any prolonged increase or decrease in oil and natural gas prices affects the levels of exploration, development, and production activity as well as the entire health of the oil and natural gas industry and can therefore negatively impact spending by the Company’s customers. No customer accounted for more than 10% of revenues for the years ended December 31, 2019, 2018, and 2017.

Concentration of Supplier Risk

Purchases during the year ended December 31, 2019 did not include purchases from any supplier that individually represented more than 10% of total operating purchases, whereas the years ended December 31, 2018 and 2017 included purchases from one supplier that individually represented more than 10% of total operating purchases. The accounts payable to this vendor totaled 15% of total accounts payable at December 31, 2018.

Property and Equipment

Property and equipment is stated at cost and depreciated under the straight-line method over the estimated useful lives of the assets. Equipment held under capital leases is stated at the present value of its future minimum lease payments and is depreciated under the straight-line method over the shorter of the lease term or the estimated useful life of the asset. When assets are retired or otherwise disposed of, the cost and related accumulated depreciation are removed from the accounts, and any resulting gain or loss is recognized within operating expenses. Normal repair and maintenance costs are charged to operating expense as incurred. Significant renewals and betterments are capitalized.

Valuation of Long-Lived Assets

Long-lived assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. In performing the review for impairment, future cash flows expected to result from the use of the asset and its eventual disposal are estimated. If the undiscounted future cash flows are less than the carrying amount of the assets, there is an indication that the asset may be impaired. The amount of the impairment is measured as the difference between the carrying value and the Level 3 fair value of the asset. The Level 3 fair value is determined either through the use of an external valuation, or by means of an analysis of discounted future cash flows based on expected utilization. Determining fair value requires the use of estimates and assumptions. Such estimates and assumptions include revenue growth rates, operating profit margins, weighted average costs of capital, terminal growth rates, future market share, the impact of new product development, and future market conditions, among others. The Company believes that the estimates and assumptions used in impairment assessments are reasonable and appropriate. Impairment losses are reflected in “Income (loss) from operations” in the Company’s Consolidated Statements of Income and Comprehensive Income (Loss).

In the fourth quarter of 2019, the Company recorded a property and equipment impairment charge of \$66.2 million and a definite-lived customer relationship intangible asset impairment charge of \$7.1 million. These impairment charges represent the difference between the carrying value and the estimated fair value of the long-lived assets in the Company’s coiled tubing asset group within its *Completion Solutions* segment and were due to a reduction of the need for coiled tubing

during the drill-out phase of the overall completions process due to a recent decline in exploration and production capital budgets and activity, an over-supply of new coiled tubing units, and the introduction of dissolvable plug technology.

In the fourth quarter of 2018, the Company recorded a property and equipment impairment charge of \$45.7 million and a definite-lived customer relationship intangible asset impairment charge of \$9.8 million. These impairment charges represent the difference between the carrying value and the estimated fair value of the long-lived assets associated with the Company's *Production Solutions* segment and were due to deteriorating conditions attributed to depressed commodity prices towards the end of the fourth quarter of 2018, coupled with customers focusing more on the completions business where there is more technological differentiation and value. On August 30, 2019, the Company sold its *Production Solutions* segment to Brigade.

For additional information on these impairment charges, see Note 6 – Property and Equipment.

For additional information on the *Production Solutions* divestiture, see Note 3 – Divestitures, Acquisitions, and Combinations.

Valuation of Goodwill and Intangible Assets

Goodwill has an indefinite useful life and is not subject to amortization. Intangible assets with indefinite useful lives (specifically trademarks and trade names) are also not subject to amortization. For goodwill and intangible assets with indefinite useful lives, an assessment for impairment is performed annually on December 31 or when there is an indication an impairment may have occurred. Goodwill is reviewed for impairment by comparing the carrying value of each of the Company's reporting unit's net assets (including allocated goodwill) to the Level 3 fair value of the reporting unit. The Level 3 fair value of the reporting unit is determined by using the income approach (discounted cash flows of forecasted income). Intangible assets with indefinite useful lives are reviewed for impairment by comparing the carrying value of the intangible asset to the Level 3 fair value of the intangible asset. The Level 3 fair value of intangible assets with indefinite useful lives (specifically trademarks and trade names) is estimated using the relief-from-royalty method of the income approach. This approach is based on the assumption that in lieu of ownership, a company would be willing to pay a royalty in order to exploit the related benefits of this intangible asset. Determining fair value requires the use of estimates and assumptions. Such estimates and assumptions include revenue growth rates, operating profit margins, royalty rates, weighted average costs of capital, terminal growth rates, future market share, the impact of new product development, and future market conditions, among others. The Company believe that the estimates and assumptions used in impairment assessments are reasonable and appropriate. The Company recognizes a goodwill impairment charge for the amount by which the carrying value of goodwill exceeds the reporting unit's Level 3 fair value. The Company recognizes an indefinite-lived intangible asset impairment charge of the amount by which the carrying value of the intangible asset exceeds the Level 3 fair value of the intangible asset. Any impairment losses are reflected in "Income (loss) from operations" in the Company's Consolidated Statements of Income and Comprehensive Income (Loss).

Intangible assets with definite lives include technology, customer relationships, and non-compete agreements. The Level 3 fair value of technology and the Level 3 fair value of customer relationships are estimated using the income approach, specifically the multi-period excess earnings method. The multi-period excess earnings method consists of isolating the cash flows attributed to the intangible asset, which are then discounted to present value to calculate the Level 3 fair value of the intangible asset. The Level 3 fair value of non-compete agreements is estimated using a with and without scenario where cash flows are projected through the term of the non-compete agreement assuming the non-compete agreement is in place and compared to cash flows assuming the non-compete agreement is not in place.

Intangible assets with definite lives are amortized based on the estimated consumption of the economic benefit over their estimated useful lives. Intangible assets with definite lives are tested for impairment whenever events or changes in circumstances indicate that their carrying amount may not be recoverable.

In the fourth quarter of 2019, in connection with its annual goodwill impairment test, the Company recorded a goodwill impairment charge of \$20.3 million in its coiled tubing reporting unit within its *Completion Solutions* segment. In addition, in the fourth quarter of 2019, in connection with its annual indefinite-lived intangible asset impairment test, the Company recorded an intangible asset impairment charge of \$12.7 million associated with the indefinite-lived trade names in its coiled tubing reporting unit and an intangible asset impairment charge of \$95.0 million associated with the indefinite-lived trade names in its completion tools reporting unit, both within its *Completion Solutions* segment. As described above in "Valuation of Long-Lived Assets" and also in the fourth quarter of 2019, the Company recorded an intangible asset impairment charge of \$7.1 million associated with the definite-lived customer relationship intangible assets in its coiled tubing asset group within its *Completion Solutions* segment.

In the fourth quarter of 2018, in connection with its annual goodwill impairment test, the Company recorded a goodwill impairment charge of \$13.0 million, which represented a full write-off of goodwill attributed to its *Production Solutions* segment. In addition, in the fourth quarter of 2018, in connection with its annual indefinite-lived intangible asset impairment test, the Company recorded an intangible asset impairment charge of \$9.3 million associated with indefinite-lived trade names in its *Production Solutions* segment. As described above in “Valuation of Long-Lived Assets” and also in the fourth quarter of 2018, the Company recorded an intangible asset impairment charge of \$9.8 million related to definite-lived customer relationship intangible assets associated with its *Production Solutions* segment. On August 30, 2019, the Company sold its *Production Solutions* segment to Brigade. For additional information on the *Production Solutions* divestiture, see Note 3 – Divestitures, Acquisitions, and Combinations.

In the fourth quarter of 2017, in connection with its annual goodwill impairment test, the Company recorded a goodwill impairment charge of \$31.5 million associated with one reporting unit in its *Completion Solutions* segment. In the fourth quarter of 2017, the Company also recorded an intangible asset impairment charge of \$3.8 million related to definite-lived customer relationship intangible assets associated with one asset group in its *Completion Solutions* segment.

For additional information on goodwill and both indefinite-lived and definite-lived intangible asset impairment charges, see Note 7 – Goodwill and Intangible Assets.

Equity

In January 2018, there was an 8.0256 for 1 stock split immediately preceding the IPO. All shares and per share data reflect the effect of the stock split.

Stock-based Compensation

The Company has stock-based compensation plans for certain of its employees. The Company measures employee stock-based compensation awards at fair value on the date they are granted to employees and recognizes compensation cost in its financial statements over the requisite service period. As a result of the adoption of Accounting Standards Update (“ASU”) No. 2016-09, the Company elected to account for stock-based compensation forfeitures as they occur.

Restricted Stock and Restricted Stock Units

Compensation expense is recorded for restricted stock and restricted stock units over the applicable vesting period based on the Company’s closing stock price as of the grant date.

Performance Units

Performance stock units are recorded at their fair value and expensed over their performance period. Fair value for performance stock units is measured using a Monte Carlo simulation model.

Options

Options are issued with an exercise price equal to the fair value of the stock on the date of grant. Compensation expense is recorded for the fair value of the stock options and is recognized over the period of the underlying security’s vesting schedule. Consideration paid on the exercise of stock options is credited to share capital and additional paid-in capital. For options, fair value of the stock-based compensation is measured by use of the Black-Scholes pricing model. The following discusses the assumptions used related to the Black-Scholes pricing model.

- The expected term of stock options represents the period the stock options are expected to remain outstanding and is based on the simplified method, which is the weighted average vesting term plus the original contractual term, divided by two.
- Expected volatility measures the amount that a stock price has fluctuated or is expected to fluctuate during a period. Prior to the Company’s IPO, when its stock was not publicly traded, the Company determined volatility based on an analysis of the PHLX Oil Service Index that tracks publicly traded oilfield service stocks. Subsequent to the IPO and as a publicly traded company, the Company developed its expected volatility based upon a weighted average volatility of its peer group.
- At the time of the issuance of the options, the Company did not plan to pay cash dividends in the foreseeable future. Therefore, a zero expected dividend yield was used in the valuation model.

- The risk-free interest rate is based on U.S. Treasury zero-coupon issues with remaining terms similar to the expected term on the options.

Prior to the Company's IPO, the value of the Company's stock at the time of each option grant used to establish the strike price was estimated by management in accordance with an internal valuation model and approved by the Company's Board of Directors. The valuation model was based upon an average of cash flow and book value multiples of comparable companies. The comparable companies selected reflect the market's view on key sector, geographic, and product type exposure that are similar to those that impact the Company's business. The value was further subject to judgmental factors such as prevailing market conditions, changes in the stock prices of other oilfield service companies, and the overall outlook for the Company and its products in general.

Income Taxes

The Company accounts for income taxes under Accounting Standards Codification ("ASC") 740. Under this method, deferred income tax assets and liabilities are determined based upon temporary differences between the carrying amounts and tax bases of the Company's assets and liabilities at the balance sheet date and are measured using enacted tax rates and laws that will be in effect when the differences are expected to reverse. The effect on deferred tax assets and liabilities of a change in the tax rates is recognized in income in the period in which the change occurs. The Company records a valuation reserve in each reporting period when management believes that it is more likely than not that any deferred tax asset created will not be realized.

The Company recognizes the financial statement benefit of a tax position only after determining that the relevant tax authority would more likely than not sustain the position following an audit. If a tax position meets the "more likely than not" recognition criteria, the tax position is measured at the largest amount of benefit greater than 50% likely of being realized upon ultimate settlement.

Fair Value of Financial Instruments

The carrying amounts for financial instruments classified as current assets and current liabilities approximate fair value, due to the short maturity of such instruments.

For 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 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.

Financial assets and liabilities that are disclosed at fair value 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.

The fair value of the Company's debt obligations is classified as Level 2 in the fair value hierarchy and is established based on observable inputs in less active markets. For additional information on the fair value of the Company's debt obligations, see Note 9 – Debt Obligations.

The fair value of the Company's contingent consideration is classified as Level 3 in the fair value hierarchy and is established on unobservable markets which reflect the best judgment of management. For additional information on the fair value of the Company's contingent consideration, see Note 3 – Divestitures, Acquisitions, and Combinations and Note 12 – Commitments and Contingencies.

Earnings (Loss) Per Share

Basic earnings (loss) per share is calculated by dividing net income (loss) by the weighted average number of common shares outstanding during the period. Diluted earnings (loss) per share is calculated by dividing net income (loss) by the weighted average number of common shares outstanding during the period, taking into effect, if any, the exercise of potentially

dilutive stock options assumed to be purchased from the proceeds using the average market price of the Company's stock for each of the periods presented as well as potentially dilutive restricted stock, restricted stock units, and performance stock units. There was no dilutive effect for the year ended December 31, 2019, 2018, or 2017 as the Company was in a net loss position for those years. For additional information on earnings (loss) per share, see Note 14 – Earnings (Loss) Per Share.

Accounting Pronouncements Recently Adopted – Revenue Recognition

In May 2014, the Financial Accounting Standards Board (the “FASB”) issued ASU No. 2014-09, *Revenue from Contracts with Customers (Topic 606)*, a comprehensive revenue recognition standard that supersedes nearly all pre-existing revenue recognition guidance, including the current revenue recognition requirements in *Revenue Recognition (Topic 605)*. The standard and its related amendments, collectively referred to as ASC 606, outlines a single comprehensive model for revenue based on the core principle that an entity recognizes revenue when promised goods or services are transferred to customers in an amount reflecting the consideration to which an entity expects to be entitled in exchange for those goods and services.

The Company adopted ASC 606 on December 31, 2019, effective January 1, 2019, using the modified retrospective method. For additional information about the Company's adoption of ASC 606, see Note 4 – Revenue.

Accounting Pronouncements Recently Adopted – Other

In August 2016, the FASB issued ASU No. 2016-15, *Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments*. This guidance addresses eight specific cash flow issues with the objective of reducing the existing diversity in practice, including: debt prepayment or debt extinguishment costs, settlement of zero-coupon debt instruments or other debt instruments, contingent consideration payments made after a business combination, proceeds from the settlement of insurance claims, proceeds from the settlement of corporate-owned life insurance policies, distributions received from equity method investees, beneficial interests in securitization transactions, and separately identifiable cash flows and application of the predominance principle. ASU 2016-15 was effective for public business entities for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years. As an emerging growth company, the Company was permitted to adopt, and therefore adopted, the standard for the fiscal years beginning after December 15, 2018 and the interim periods within fiscal years beginning after December 15, 2019. The adoption of the standard did not impact the Company's Consolidated Statements of Cash Flows.

In January 2017, the FASB issued ASU No. 2017-01, *Business Combinations (Topic 805): Clarifying the Definition of a Business*, in an effort to clarify the definition of a business with the objective of adding guidance to assist entities with evaluating whether transactions should be accounted for as acquisitions (or disposals) of assets or businesses. The amendments in this standard provide a screen to determine when an integrated set of assets and activities is not a business. The screen requires that when substantially all of the fair value of the gross assets acquired (or disposed of) is concentrated in a single identifiable asset or a group of similar identifiable assets, the integrated set of assets and activities is not a business. Although the standard was generally effective for fiscal years beginning after December 15, 2017, the Company, as an emerging growth company, was permitted to adopt, and therefore has adopted, the standard for the fiscal years beginning after December 15, 2018 and the interim periods within annual periods beginning after December 15, 2019. Entities are required to apply the guidance prospectively when adopted and therefore, there was no impact on its consolidated financial statements.

Accounting Pronouncements Not Yet Adopted

In February 2016, the FASB issued ASU No. 2016-02, *Leases (Topic 842)*, to increase transparency and comparability among organizations by recognizing lease assets and lease liabilities on the balance sheet and disclosing key information about leasing arrangements. The standard, which requires the use of a modified retrospective transition approach, includes a number of optional practical expedients that entities may elect to apply. In July 2018, the FASB issued a new, optional transition method that will give companies the option to use the effective date as the date of initial application on transition. Based on initial evaluation, the Company expects to include operating leases with durations greater than twelve months on its Consolidated Balance Sheets. The Company is currently in the process of accumulating and evaluating all the necessary information required to properly account for its lease portfolio under the new standard. The Company will provide additional information about the expected financial impact as it progresses through the evaluation and implementation of the standard. The standard is effective for public business entities for fiscal years beginning after December 15, 2018 and interim periods within those fiscal years, and it has recently been updated to extend the application for all other entities to the fiscal years beginning after December 15, 2020 and the interim periods within the fiscal years beginning after December 15, 2021. Early application is allowed, and the Company, as an emerging growth company, plans to adopt the standard for the fiscal years beginning after December 15, 2019 and the interim periods within the fiscal years beginning after December 15, 2020.

In August 2018, the FASB issued ASU No. 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework* –

Changes to the Disclosure Requirements for Fair Value Measurement, which eliminates, adds, and modifies certain disclosure requirements for fair value measurements as part of its disclosure framework project. The ASU is effective for all entities for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2019. The ASU is required to be applied retrospectively, except the new Level 3 disclosure requirements are applied prospectively. The Company is currently evaluating the impact of the standard on its consolidated financial statements.

In August 2018, the FASB issued ASU No. 2018-15, *Intangibles – Goodwill and Other – Internal-Use Software (Subtopic 350-40): Customer’s Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract*. ASU No. 2018-15 provides additional guidance on the accounting for costs of implementation activities performed in a cloud computing arrangement that is a service contract. The amendments in ASU No. 2018-15 align the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software (and hosting arrangements that include an internal-use software license). Costs for implementation activities in the application development stage are capitalized depending on the nature of the costs, while costs incurred during the preliminary project and post implementation stages are expensed as the activities are performed. ASU 2018-15 is effective for public businesses for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years. As an emerging growth company, the Company is permitted, and plans, to adopt the new standard for the annual reporting periods beginning after December 15, 2020 and the interim periods within annual periods beginning after December 15, 2021. The Company is currently evaluating the impact of the standard on its consolidated financial statements.

3. Divestitures, Acquisitions, and Combinations

Production Solutions Divestiture

On August 30, 2019 (the “*Production Solutions Divestiture Date*”), the Company entered into the *Production Solutions Purchase Agreement* with Brigade. Pursuant to the *Production Solutions Purchase Agreement*, on such date, through the sale of all of the limited liability interests of its wholly owned subsidiary, Beckman Holding Production Services, LLC, the Company sold its *Production Solutions* segment to Brigade for approximately \$17.1 million in cash. The *Production Solutions Purchase Agreement* contains customary representations and warranties, covenants, and indemnification provisions. In connection with this divestiture, the Company recorded a loss of \$15.9 million during the year ended December 31, 2019. This divestiture did not qualify as discontinued operations in accordance with ASU 2014-08, *Presentation of Financial Statements (Topic 205) and Property, Plant, and Equipment (Topic 360): Reporting Discontinued Operations and Disclosures of Disposals of Components of an Entity* as it did not represent a strategic shift that has a major effect on the Company’s operations and financial results.

Magnum Acquisition

On October 25, 2018 (the “*Magnum Closing Date*”), pursuant to the terms of the *Magnum Purchase Agreement*, the Company acquired all of the equity interests of *Magnum* for approximately \$334.5 million in upfront cash consideration, subject to customary adjustments, and 5.0 million shares of the Company’s common stock, which were issued to the sellers of *Magnum* in a private placement. The *Magnum Purchase Agreement* also includes the potential for additional future payments in cash of (i) up to 60% of net income (before interest, taxes, and certain gains or losses) for the “E-Set” tools business in 2019 through 2026 and (ii) up to \$25.0 million based on sales of certain dissolvable plug products in 2019 (the “*Magnum Earnout*”).

The *Magnum Acquisition* has been accounted for as a business combination using the acquisition method. Under the acquisition method of accounting, the fair value of the consideration transferred was allocated to the tangible and intangible assets acquired and the liabilities assumed based on their estimated fair values as of the acquisition date, with the remaining unallocated amount recorded as goodwill.

The following table summarizes the fair value of purchase consideration transferred on the Magnum Closing Date:

	Fair Value
	(in thousands)
Proceeds from newly issued Senior Notes and 2018 ABL Credit Facility ⁽¹⁾	\$ 296,622
Cash provided from operations	57,740
Total upfront cash consideration	\$ 354,362
Issuance of the Company's common shares	177,350
Contingent consideration ⁽²⁾	23,029
Total purchase consideration	\$ 554,741

(1) Senior Notes and 2018 ABL Credit Facility are defined in Note 9 – Debt Obligations.

(2) The estimated fair value of the Magnum Earnout was based on a Monte Carlo simulation model with estimated outcomes ranging from \$0 to \$25.0 million. The estimated fair value of the Magnum Earnout was based upon available information and certain assumptions, known at the time of the Magnum Closing Date, which management believed were reasonable. Any difference in the actual Magnum Earnout from the estimated fair value of the Magnum Earnout is recorded in “Income (loss) from operations” in the Company’s Consolidated Statements of Income and Comprehensive Income (Loss).

The following table summarizes the allocation of the purchase price of the Magnum Acquisition to the assets acquired and liabilities assumed based on the fair value as of the Magnum Closing Date, with the excess of the purchase price over the estimated fair value of the identifiable net assets acquired recorded as goodwill:

	Purchase Price Allocation
	(in thousands)
Cash and cash equivalents	\$ 8,509
Accounts receivable, net	30,898
Income taxes receivable	695
Inventories, net	52,249
Prepaid expenses and other current assets	1,147
Property and equipment, net	3,729
Goodwill	234,504
Definite-lived intangible, assets	148,000
Indefinite-lived intangible assets, net	96,000
Other long-term assets	1,055
Accounts payable	(3,626)
Accrued expenses	(18,404)
Other long-term liabilities	(15)
Total net assets acquired	\$ 554,741

All goodwill acquired is attributable to expected synergies gained through the Magnum Acquisition as well as the assembled workforce. In addition, all goodwill acquired is included in the *Completion Solutions* segment and is deductible for tax purposes. For additional information on goodwill, see Note 7 – Goodwill and Intangible Assets.

A portion of the fair value consideration transferred has been assigned to identifiable intangible assets as follows:

	Customer Relationships	Non-Compete Agreements	Technology	Definite-Lived Intangible Assets Total	Trade Names	Other Intangible Assets	Indefinite-Lived Intangible Assets Total
(in thousands, except weighted average useful life information)							
Fair value	\$25,000	\$3,000	\$120,000	\$148,000	\$95,000	\$1,000	\$96,000
Weighted average useful life	9.0	2.1	15.0		Indefinite	Indefinite	

Pro Forma

Magnum's results of operations are included in the Company's Consolidated Statements of Income and Comprehensive Income (Loss), as part of its *Completion Solutions* segment, for the year ended December 31, 2019 and 2018. It is impractical to quantify the contribution of Magnum since the Magnum Closing Date, as the business was fully integrated into the Company's existing operations in 2018.

The following unaudited pro forma condensed combined financial information was derived from the Company's historical consolidated financial statements and Magnum's historical combined financial statements, gives effect to the Magnum Acquisition as if it had occurred on January 1, 2017, and reflects pro forma adjustments based on available information and certain assumptions the Company believes are reasonable. These pro forma adjustments include the following:

- The pro forma impact of the amortization of intangible assets and depreciation of property, plant, and equipment based on the estimated fair values of the identifiable assets;
- The pro forma impact of the elimination of sales commissions due from or paid by Magnum to an intercompany entity that was not included in the Magnum Acquisition;
- The pro forma impact of the elimination of insurance premiums paid by Magnum to a captive insurance entity under common ownership that was not included in the Magnum Acquisition, for additional insurance coverage that was not replaced subsequent to the close of the transaction;
- The pro forma impact of interest expense related to the Magnum Acquisition;
- The tax benefit of the aforementioned pro forma adjustments; and
- The pro forma impact to weighted average shares outstanding to reflect the issuance of 5.0 million shares to the sellers of Magnum as of the beginning of the period presented.

The unaudited pro forma condensed combined financial information is presented for illustrative purposes only and is not necessarily indicative of the financial position that would have existed or the financial results that would have occurred if the Magnum Acquisition had been consummated on January 1, 2017, nor is it necessarily indicative of the Company's future financial position, or operating results. Further, the unaudited pro forma condensed combined financial information does not reflect the realization of any expected cost savings or other synergies from the Magnum Acquisition as a result of restructuring activities and other planned costs savings initiatives following the completion of the Magnum Acquisition.

The following table summarizes selected unaudited financial information of the Company on a pro forma basis:

	2018	2017
(in thousands, except per share amounts)		
Revenues	\$ 948,282	\$ 633,248
Net loss	\$ (55,447)	\$ (78,993)
Loss per share		
Basic	\$ (1.89)	\$ (3.97)
Diluted	\$ (1.89)	\$ (3.97)

Frac Tech Acquisition

On October 1, 2018, pursuant to the terms and conditions of a Securities Purchase Agreement (the “Frac Tech Purchase Agreement”), the Company acquired Frac Technology AS, a Norwegian private limited company (“Frac Tech”) focused on the development of downhole technology, including a casing flotation tool and a number of patented downhole completion tools. This acquisition was not material to the Company’s consolidated financial statements.

Beckman Combination

On February 28, 2017, pursuant to the terms and conditions of a combination agreement dated February 3, 2017, the Company merged with Beckman and all of the issued and outstanding shares of Beckman common stock were converted into shares of common stock of Nine Energy Service, Inc. at a ratio of 0.567154 Nine shares per Beckman share, other than 1.6% of Beckman shares paid in cash. Prior to the Beckman Combination, SCF-VII, L.P. had controlled a majority of the voting interests of Nine and Beckman since February 28, 2011 and July 31, 2012, respectively. The merger of the entities into the combined company was accounted for using reorganization accounting (i.e., “as if” pooling of interest) for entities under common control.

In conjunction with the Beckman Combination, in addition to the conversion of Beckman shares into Nine shares, other events occurred, including:

- The conversion of Beckman shares owned by non-accredited shareholders of Beckman at the time of the Beckman Combination into cash at a price of \$17.69 per Beckman share;
- Payment of cash for Beckman shares that converted into fractional Nine shares at the price of \$31.18 per Nine share;
- The conversion of options to purchase Beckman common stock into options to purchase Nine common stock;
- The conversion of Beckman restricted shares into Nine restricted shares;
- The conversion of warrants to purchase Beckman common stock into warrants to purchase Nine common stock;
- The issuance of options to purchase Nine common stock;
- The issuance, on a pro-rata basis, to the Company’s shareholders of Nine common stock based on a subscription amount equal to the number of common shares issued at a price of \$31.18. The subscription was offered to all shareholders of record at the time of the Beckman Combination. Any unsubscribed shares were reallocated among the shareholders; and
- The issuance to the Company’s shareholders of Nine warrants equal to one half of the amount of shares issued related to the subscription described above.

4. Revenue

Adoption of ASC Topic 606

The Company adopted ASC 606 on December 31, 2019, effective January 1, 2019, using the modified retrospective method in which the standard has been applied to all contracts which were not completed as of the date of initial application. Accordingly, results for the year ended December 31, 2019 are presented in accordance with ASC 606 while prior period results, including those presented in the previous quarters of 2019, have not been adjusted and continue to be reported under the previous revenue recognition guidance. As a practical expedient, the Company has not restated completed contracts that begin and end in the same annual reporting period. No adjustment to the beginning 2019 retained earnings was required as a result of the Company’s adoption of ASC 606, and no adjustment was recorded during the year.

Under ASC 606, the Company recognizes revenue similarly to how it recognized revenue in accordance with ASC 605, except for revenue from international sales of completion tools. Prior to the adoption of ASC 606, the Company recognized revenue when products were received by a customer’s domestic common carrier at the Company’s facility. Upon adoption of ASC 606, the Company now recognizes revenue when the product is received by the customer’s international carrier. The Company believes this change better reflects the point at which the customer has control of the product as required by ASC 606. The adoption of ASC 606 did not have a material impact on the Company’s consolidated financial statements.

Performance Obligations

A performance obligation is a promise in a contract to transfer a distinct good or service to the customer and is the unit of account in ASC 606. A contract's transaction price is allocated to each distinct performance obligation and recognized as revenue when, or as, the performance obligation is satisfied. The Company excludes sales taxes, value added taxes, and other taxes it collects concurrent with revenue-producing activities from revenue.

The Company's revenue is derived from the sale of products and services which are sold directly to customers or are consumed by customers on their well sites. For domestic product sales, the Company typically recognizes revenue when it meets its performance obligation upon the shipment of the products from its facilities to its customer. For international product sales, the Company typically recognizes revenue when it meets its performance obligation upon receipt of the products by the customer's international carrier. The Company recognizes service revenue over the time the service is performed as the customer consumes and benefits from the use of the Company's products and services for well service. Service revenues represent revenue recognized over time, as the Company's customer arrangements typically provide agreed upon hourly or daily fixed-rates, and the Company recognizes service revenue based upon the number of hours or days services have been performed. At December 31, 2019, the amount of remaining performance obligations was immaterial.

Contracts for the Company's products and services are negotiated on a per-job basis at a regional level. Contracts vary in nature but typically have a duration of less than a month and have a single performance obligation either for a job, a series of distinct jobs, or a period the Company stands ready to provide its services to its client as needed.

The Company's payment terms vary by the type and location of its customers and type of product and service offered. The Company receives cash equal to the invoice amount for most services and product sales, and payment terms typically range from 30 to 60 days from the date the Company invoices a customer. Since the period between the delivery of the Company's products and services and the Company's receipt of customer payment for these products and services is not expected to exceed one year, the Company has elected not to calculate or disclose a financing component for its customer contracts.

Contract Estimates

The Company receives reimbursements from its customers for the purchase of supplies, equipment, personnel services, and other services provided at a customer's request. Reimbursable revenues are subject to uncertainty as the timing of the receipt of these amounts is dependent on factors outside of the Company's influence. Accordingly, these revenues are not recognized until the uncertainty is resolved, which typically occurs when the related costs are incurred on behalf of the customer. The Company is considered a principal in these transactions and records the associated revenues at the gross amount billed to the customer.

Changes and modifications to contracts are routine in the performance of the Company's contracts due to the dynamic nature of well operations and the services the Company provides for its customers. The Company considers contract modifications to exist when the modification either creates a new contract or changes the existing enforceable rights and obligations of a contract. Most of the Company's contract modifications are for services or goods that are not distinct from existing contracts due to the significant integration provided or significant interdependencies in the context of the contract and are accounted for as if they were part of the original contract.

Contract Balances

Any contract assets are included in "Accounts receivable, net" in the Company's Consolidated Balance Sheets. Contract assets arise when recorded revenues for a contract exceed the amounts billed under the terms of the contracts. The Company classifies contract liabilities as unearned income which is included in "Accrued expenses" in the Company's Consolidated Balance Sheets. Such deferred revenue typically results from advance payments received on well service orders prior to performance of the service. As of December 31, 2019 and 2018, contract assets and contract liabilities were immaterial.

Disaggregation of Revenue

On August 30, 2019, also known as the *Production Solutions* Divestiture Date, the Company sold its *Production Solutions* segment to Brigade. Disaggregated revenue below for *Production Solutions* segment is provided through the *Production Solutions* Divestiture Date. For additional information on the *Production Solutions* divestiture, see Note 3 – Divestitures, Acquisitions, and Combinations.

The Company disaggregates revenue from contracts with customers by type of products or services as set forth in the tables below.

	For the year ended December 31, 2019		
	<i>Completion Solutions</i>	<i>Production Solutions</i>	Total
	(in thousands)		
Coiled tubing	\$ 134,543	\$ —	\$ 134,543
Cement	217,893	—	217,893
Tools	186,429	—	186,429
Wireline	235,800	—	235,800
Well service	—	58,272	58,272
Total revenues	\$ 774,665	\$ 58,272	\$ 832,937

	For the year ended December 31, 2019		
	<i>Completion Solutions</i>	<i>Production Solutions</i>	Total
	(in thousands)		
Products ⁽¹⁾	\$ 186,429	\$ —	\$ 186,429
Services ⁽¹⁾	588,236	58,272	646,508
Total	\$ 774,665	\$ 58,272	\$ 832,937

(1) The Company recognizes revenues from the sales of products at a point in time and revenues from the sales of services over time.

5. Inventories

Inventories, consisting primarily of finished goods and raw materials, are stated at the lower of cost or net realizable value. Cost is determined on an average cost basis. The Company reviews its inventory balances and writes down its inventory for estimated obsolescence or excess inventory equal to the difference between the cost of inventory and the estimated market value based upon assumptions about future demand and market conditions. The reserve for obsolescence was \$5.4 million and \$1.9 million at December 31, 2019 and 2018, respectively.

Inventories, net as of December 31, 2019 and 2018 were comprised of the following:

	December 31,	
	2019	2018
	(in thousands)	
Raw materials	\$ 38,823	\$ 38,890
Work in progress	—	130
Finished goods	27,555	54,301
Inventories	66,378	93,321
Reserve for obsolescence	(5,433)	(1,886)
Inventories, net	\$ 60,945	\$ 91,435

6. Property and Equipment

Property and equipment amounts as of December 31, 2019 and 2018 were as follows:

	Estimated Useful Lives	December 31,	
		2019	2018
(in thousands)			
Operating equipment	1 to 12 years	\$ 293,237	\$ 394,881
Autos and trucks	1 to 7 years	15,053	30,770
Furniture, fixtures, and equipment	2 to 12 years	4,054	4,330
Shop equipment	3 to 15 years	16,144	17,300
Buildings	7 to 39 years	7,991	9,784
Leasehold improvements	3 to 11 years	1,653	1,488
Land	indefinite	791	1,618
		338,923	460,171
Less: Accumulated depreciation		(210,319)	(248,527)
Property and equipment, net		\$ 128,604	\$ 211,644

Depreciation expense was \$50.5 million, \$54.3 million, and \$53.4 million for the years ended December 31, 2019, 2018, and 2017, respectively.

2019 Property and Equipment Impairment

With a recent decline in exploration and production capital budgets and activity, coupled with an over-supply of new coiled tubing units, the demand for coiled tubing during the drill-out phase of the overall completions process diminished in the fourth quarter of 2019, shrinking the overall coiled tubing market. Additionally, in the fourth quarter of 2019, dissolvable plug technology became more widely adopted by operators, which significantly reduced and will potentially eliminate the need for coiled tubing drill-outs. This weakened market outlook indicated that the carrying amount of long-lived assets in the Company's coiled tubing asset group within its *Completion Solutions* segment might not have been recoverable. As such, the Company performed an impairment assessment of all long-lived assets in its coiled tubing asset group within its *Completion Solutions* segment under ASC 360, Property, Plant and Equipment ("ASC 360") at December 31, 2019. Based on this assessment, which was in consideration of its best internal projections, the Company determined that the carrying amount of long-lived assets in its coiled tubing reporting asset group within its *Completion Solutions* segment exceeded the estimated future undiscounted cash flows derived from its coiled tubing asset group's long-lived assets. As such, the Company determined the fair value of the long-lived assets in its coiled tubing asset group within its *Completion Solutions* segment using the market approach (consideration of market sales values for similar assets). Based on its fair value determination, the Company recorded an impairment charge of \$66.2 million related to property and equipment in its coiled tubing asset group within its *Completion Solutions* segment and an impairment charge of \$7.1 million related to definite-lived customer relationship intangible assets in its coiled tubing asset group within its *Completion Solutions* segment. The property and equipment impairment charge is included in the line item "Impairment of property and equipment" in the Company's Consolidated Statements of Income and Comprehensive Income (Loss) for the year ended December 31, 2019, and the definite-lived intangible asset impairment charge is included in the line item "Impairment of intangibles" in the Company's Consolidated Statements of Income and Comprehensive Income (Loss) for the year ended December 31, 2019. The total impairment charge represents the difference between the carrying value and the estimated fair value of the long-lived assets in the Company's coiled tubing asset group within its *Completion Solutions* segment and was allocated across the long-lived asset classifications in its coiled tubing asset group within its *Completion Solutions* segment.

2018 Property and Equipment Impairment

In the fourth quarter of 2018, market conditions in the Company's *Production Solutions* segment began to deteriorate due to depressed commodity prices towards the end of the fourth quarter of 2018, coupled with customers focusing more on the completions business where there was more technological differentiation and value. This weakened market outlook indicated that the carrying amount of long-lived assets associated with the Company's *Production Solutions* segment might not have been recoverable. As such, the Company performed an impairment assessment of all long-lived assets associated with its *Production Solutions* segment under ASC 360 at December 31, 2018. Based on this assessment, which was in consideration of its best internal projections, the Company determined that the carrying amount of long-lived assets associated with its *Production*

Solutions segment exceeded the estimated future undiscounted cash flows derived from the long-lived assets associated with the segment. As such, the Company determined the fair value of the long-lived assets associated with its *Production Solutions* segment using a combination of the income approach (discounted cash flows of forecasted income) and the market approach (consideration of market sales values for similar assets). Based on its fair value determination, the Company recorded an impairment charge of \$45.7 million related to property and equipment associated with its *Production Solutions* segment and an impairment charge of \$9.8 million related to definite-lived customer relationship intangible assets associated with its *Production Solutions* segment. The property and equipment impairment charge is included in the line item “Impairment of property and equipment” in the Company’s Consolidated Statements of Income and Comprehensive Income (Loss) for the year ended December 31, 2018, and the definite-lived intangible asset impairment charge is included in the line item “Impairment of intangibles” in the Company’s Consolidated Statements of Income and Comprehensive Income (Loss) for the year ended December 31, 2018. The total impairment charge represents the difference between the carrying value and the estimated fair value of the long-lived assets associated with its *Production Solutions* segment and was allocated across the long-lived asset classifications in the *Production Solutions* segment.

7. Goodwill and Intangible Assets

Goodwill

The changes in the net carrying amount of the components of goodwill for the years ended December 31, 2019 and 2018 were as follows:

	Goodwill		
	Gross Value	Accumulated Impairment Loss	Net
	(in thousands)		
Balance as of December 31, 2017	\$ 173,033	\$ (79,277)	\$ 93,756
Additions	227,034	—	227,034
Impairment	—	(12,986)	(12,986)
Balance as of December 31, 2018	\$ 400,067	\$ (92,263)	\$ 307,804
Purchase price adjustments ⁽¹⁾	8,665	—	8,665
Impairment	—	(20,273)	(20,273)
Balance as of December 31, 2019	\$ 408,732	\$ (112,536)	\$ 296,196

(1) The Company recorded adjustments to the fair value of goodwill in relation to the Magnum Acquisition. For additional information on the Magnum Acquisition and related purchase price adjustments, see Note 3 – Divestitures, Acquisitions, and Combinations.

Goodwill by segment for the years ended December 31, 2019 and 2018 was as follows:

(in thousands)	<i>Completion Solutions</i>		<i>Production Solutions</i>		Total	
	2019	2018	2019	2018	2019	2018
	Balance as of January 1	\$ 307,804	\$ 80,770	\$ —	\$ 12,986	\$ 307,804
Additions	—	227,034	—	—	—	227,034
Purchase price adjustments ⁽¹⁾	8,665	—	—	—	8,665	—
Impairment	(20,273)	—	—	(12,986)	(20,273)	(12,986)
Balance as of December 31	\$ 296,196	\$ 307,804	\$ —	\$ —	\$ 296,196	\$ 307,804

(1) The Company recorded adjustments to the fair value of goodwill in relation to the Magnum Acquisition. For additional information on the Magnum Acquisition and related purchase price adjustments, see Note 3 – Divestitures, Acquisitions, and Combinations.

The Company performs its annual goodwill impairment test on December 31 or when there is an indication an impairment may have occurred. Prior to 2017, Beckman performed its annual goodwill impairment test as of October 31. In the fourth quarter of 2017, the goodwill impairment test date for Beckman was changed to December 31 in order to align more closely with the Company’s planning and forecasting process.

2019 Goodwill Impairment

With a recent decline in exploration and production capital budgets and activity, coupled with an over-supply of new coiled tubing units, the demand for coiled tubing during the drill-out phase of the overall completions process diminished in the fourth quarter of 2019, shrinking the overall coiled tubing market. Additionally, in the fourth quarter of 2019, dissolvable plug technology became more widely adopted by operators, which significantly reduced and will potentially eliminate the need for coiled tubing drill-outs. As a consequence, the outlook for expected future cash flows in the Company's coiled tubing reporting unit within its *Completion Solutions* segment reduced as the coiled tubing reporting unit's carrying value exceeded its estimated Level 3 fair value. As such, in the fourth quarter of 2019, in connection with its annual goodwill impairment test, the Company recorded a goodwill impairment charge of \$20.3 million, in its coiled tubing reporting unit within its *Completion Solutions* segment. This goodwill impairment charge is included in the line item "Impairment of goodwill" in the Company's Consolidated Statements of Income and Comprehensive Income (Loss) for the year ended December 31, 2019.

2018 Goodwill Impairment

In the fourth quarter of 2018, due to deteriorating market conditions in the Company's *Production Solutions* segment attributed to depressed commodity prices towards the end of the fourth quarter of 2018, coupled with customers focusing more on the completions business where there is more technological differentiation and value, there was a reduction in the outlook for expected future cash flows in the segment and as a result, the segment's carrying value exceeded its estimated Level 3 fair value. As such, in the fourth quarter of 2018, in connection with its annual goodwill impairment test, the Company recorded a goodwill impairment charge of \$13.0 million, which represented a full write-off of goodwill attributed to its *Production Solutions* segment. This goodwill impairment charge is included in the line item "Impairment of goodwill" in the Company's Consolidated Statements of Income and Comprehensive Income (Loss) for the year ended December 31, 2018.

2017 Goodwill Impairment

In the fourth quarter of 2017, due to declining profitability and deteriorating market conditions, which included a shift from open hole completions to significantly less profitable cemented liners, there was a reduction in the outlook for expected future cash flows in one reporting unit in the Company's *Completion Solutions* segment and as a result, the reporting unit's carrying value exceeded its estimated Level 3 fair value. As such, in the fourth quarter of 2017, in connection with its annual goodwill impairment test, the Company recorded a goodwill impairment charge of \$31.5 million associated with the reporting unit. This goodwill impairment charge is included in the line item "Impairment of goodwill" in the Company's Consolidated Statements of Income and Comprehensive Income (Loss) for the year ended December 31, 2017.

Intangible Assets

The changes in the net carrying amount of the components of intangible assets for the years ended December 31, 2019 and 2018 were as follows:

	2019					
	Customer Relationships	Non-Compete Agreements	Technology	Definite-Lived Intangible Asset Total	Trade Names and Other	Indefinite-Lived Intangible Asset Total
	(in thousands, except weighted average amortization period information)					
Balance as of December 31, 2018	\$ 47,964	\$ 2,850	\$ 122,637	\$ 173,451	\$ 108,711	\$ 108,711
Amortization expense	(8,335)	(1,316)	(8,716)	(18,367)	—	—
Impairment	(7,093)	—	—	(7,093)	(107,711)	(107,711)
Balance as of December 31, 2019	<u>\$ 32,536</u>	<u>\$ 1,534</u>	<u>\$ 113,921</u>	<u>\$ 147,991</u>	<u>\$ 1,000</u>	<u>\$ 1,000</u>
Weighted average amortization period	6.0	3.8	13.6		Indefinite	
	2018					
	Customer Relationships	Non-Compete Agreements	Technology	Definite-Lived Intangible Asset Total	Trade Names and Other	Indefinite-Lived Intangible Asset Total
	(in thousands, except weighted average amortization period information)					
Balance as of December 31, 2017	\$ 39,645	\$ 725	\$ 1,144	\$ 41,514	\$ 22,031	\$ 22,031
Additions	25,000	3,000	123,240	151,240	96,000	96,000
Amortization expense	(6,962)	(849)	(1,747)	(9,558)	—	—
Impairment	(9,719)	(26)	—	(9,745)	(9,320)	(9,320)
Balance as of December 31, 2018	<u>\$ 47,964</u>	<u>\$ 2,850</u>	<u>\$ 122,637</u>	<u>\$ 173,451</u>	<u>\$ 108,711</u>	<u>\$ 108,711</u>
Weighted average amortization period	7.3	3.5	14.6		Indefinite	

2019 Indefinite-Lived Intangible Asset Impairment

With a recent decline in exploration and production capital budgets and activity, coupled with an over-supply of new coiled tubing units, the demand for coiled tubing during the drill-out phase of the overall completions process diminished in the fourth quarter of 2019, shrinking the overall coiled tubing market. Additionally, in the fourth quarter of 2019, dissolvable plug technology became more widely adopted by operators, which significantly reduced and will potentially eliminate the need for coiled tubing drill-outs. As a consequence, the outlook for expected future cash flows attributed to indefinite-lived trade names associated with the Company's coiled tubing reporting unit within its *Completion Solutions* segment reduced as the trade names' carrying value exceeded its estimated fair value. In addition, in the fourth quarter of 2019, the Company changed its marketing strategy and began the process of transitioning certain Magnum trade names to the Company's trade names in order to better funnel and allocate resources, create a stronger identity, facilitate cross-selling, and streamline and simplify communication with existing customers. As a consequence, the outlook for expected future cash flows attributed to indefinite-lived trade names in the Company's completion tools reporting unit within its *Completion Solutions* segment also reduced as the trade names' carrying value exceeded its estimated fair value. As such, in the fourth quarter of 2019, in connection with its annual indefinite-lived intangible asset impairment test, the Company recorded an intangible asset impairment charge of \$12.7 million associated with the indefinite-lived trade names associated in its coiled tubing reporting unit and an intangible asset impairment charge of \$95.0 million associated with the indefinite-lived trade names in its completion tools reporting unit, both within its *Completion Solutions* segment. These indefinite-lived intangible asset impairment charges are included in the line item "Impairment of intangibles" in the Company's Consolidated Statements of Income and Comprehensive Income (Loss) for the year ended December 31, 2019.

2018 Indefinite-Lived Intangible Asset Impairment

In the fourth quarter of 2018, due to deteriorating market conditions in the Company's *Production Solutions* segment attributed to depressed commodity prices towards the end of the fourth quarter of 2018, coupled with customers focusing more on the completions business where there is more technological differentiation and value, there was a reduction in the outlook for expected future cash flows attributed to indefinite-lived trade names associated with the segment, and as a result, the trade names' carrying value exceeded its estimated fair value. As such, in the fourth quarter of 2018, in connection with its annual indefinite-lived intangible asset impairment test, the Company recorded an intangible asset impairment charge of \$9.3 million

associated with the indefinite-lived trade names in its *Production Solutions* segment. This indefinite-lived intangible asset impairment charge is included in the line item “Impairment of intangibles” in the Company’s Consolidated Statements of Income and Comprehensive Income (Loss) for the year ended December 31, 2018.

2019 Definite-Lived Intangible Asset Impairment

In the fourth quarter of 2019, the Company also recorded an impairment charge of \$7.1 million related to definite-lived customer relationship intangible assets in its coiled tubing asset group within its *Completion Solutions* segment. This definite-lived intangible asset impairment charge is included in the line item “Impairment of intangibles” in the Company’s Consolidated Statements of Income and Comprehensive Income (Loss) for the year ended December 31, 2019. For additional information on this definite-lived impairment charge, see Note 6 – Property and Equipment.

2018 Definite-Lived Intangible Asset Impairment

In the fourth quarter of 2018, the Company also recorded an impairment charge of \$9.8 million related to definite-lived customer relationship intangible assets associated with its *Production Solutions* segment. This definite-lived intangible asset impairment charge is included in the line item “Impairment of intangibles” in the Company’s Consolidated Statements of Income and Comprehensive Income (Loss) for the year ended December 31, 2018. For additional information on this definite-lived impairment charge, see Note 6 – Property and Equipment.

2017 Definite-Lived Intangible Asset Impairment

In the fourth quarter of 2017, completions methodology in the area of one of the *Completion Solutions* segment’s asset groups began to shift from open hole completions to significantly less profitable cemented liners, which resulted in declining revenue and profitability within the asset group. The Company determined that these factors indicated that the carrying amount of long-lived assets associated with the asset group might not be recoverable. As such, the Company performed an impairment assessment of all long-lived assets associated with the asset group under ASC 360 at December 31, 2017. Level 3 fair value of the long-lived assets associated with the asset group was determined by estimating the net present value of the future cash flows over the life of the long-lived assets. Using Level 3 inputs of the fair value hierarchy, critical assumptions for those valuations include estimated activity levels, revenue, and operating expenses. Based on this valuation, the Company recorded an impairment charge of \$3.8 million related to definite-lived customer relationship intangible assets associated with this asset group. This definite-lived intangible asset impairment charge is included in the line item “Impairment of intangibles” in the Company’s Consolidated Statements of Income and Comprehensive Income (Loss) for the year ended December 31, 2017.

Amortization of Intangibles

Amortization of intangibles was \$18.4 million, \$9.6 million, and \$8.8 million for the years ended December 31, 2019, 2018, and 2017, respectively.

Future estimated amortization of intangibles is as follows:

Year Ending December 31,	(in thousands)
2020	\$ 16,467
2021	16,116
2022	13,463
2023	11,516
2024	11,183
Thereafter	79,246
	<u>\$ 147,991</u>

8. Accrued Expenses

Accrued expenses as of December 31, 2019 and 2018 consisted of the following:

	December 31,	
	2019	2018
	(in thousands)	
Accrued compensation and benefits	\$ 7,009	\$ 11,930
Accrued bonus	5,043	13,250
Sales tax payable	820	1,185
Contingent liabilities	391	20,922
Accrued interest	6,091	7,031
Other accrued expenses	5,376	7,116
Total accrued expenses	<u>\$ 24,730</u>	<u>\$ 61,434</u>

9. Debt Obligations

The Company's debt obligations as of December 31, 2019 and 2018 were as follows:

	December 31,	
	2019	2018
	(in thousands)	
Senior Notes	\$ 400,000	\$ 400,000
2018 ABL Credit Facility	—	35,000
2018 IPO Term Loan Credit Facility	—	—
Legacy Term Loans	—	—
Legacy Revolving Credit Facilities	—	—
Total debt before deferred financing costs	\$ 400,000	\$ 435,000
Deferred financing costs	(7,941)	(10,022)
Total debt	\$ 392,059	\$ 424,978
Less: Current portion of long-term debt	—	—
Long-term debt	<u>\$ 392,059</u>	<u>\$ 424,978</u>

Senior Notes

On October 25, 2018, the Company issued \$400.0 million principal amount of 8.750% Senior Notes due 2023 (the "Senior Notes"). The Senior Notes were issued under an indenture, dated as of October 25, 2018 (the "Indenture"), by and among the Company, certain subsidiaries of the Company and Wells Fargo, National Association, as Trustee. The Senior Notes bear interest at an annual rate of 8.750% payable on May 1 and November 1 of each year with the first interest payment being due on May 1, 2019. The Senior Notes are senior unsecured obligations of the Company and are fully and unconditionally guaranteed on a senior unsecured basis by each of the Company's current domestic subsidiaries and by certain future subsidiaries.

At any time prior to November 1, 2020, the Company may, from time to time, redeem up to 35% of the aggregate principal amount of the Senior Notes with an amount of cash not greater than the net cash proceeds of certain equity offerings at a redemption price equal to 108.750% of the principal amount of the Senior Notes redeemed, plus accrued and unpaid interest, if any, to, but excluding the date of redemption, provided that at least 65% of the aggregate principal amount of the Senior Notes issued under the Indenture remains outstanding immediately after such redemption and the redemption occurs within 180 days of the closing date of such equity offering. Also, at any time prior to November 1, 2020, the Company may, on any one or more occasions, redeem all or a part of the Senior Notes at a redemption price equal to 100% of the principal amount of the Senior Notes redeemed, plus a “make-whole” premium plus accrued and unpaid interest, if any, to, but excluding, the date of redemption. On and after November 1, 2020, the Company may redeem the Senior Notes, in whole or in part, at the redemption prices (expressed as percentages of principal amount of the Senior Notes to be redeemed) set forth below, plus accrued and unpaid interest, if any, to, but excluding, the date of redemption if redeemed during the 12-month period beginning on November 1 of the years indicated below:

<u>Year</u>	<u>Redemption Price</u>
2020	104.375%
2021	102.188%
2022 and thereafter	100.000%

If the Company experiences certain changes of control, each holder of Senior Notes may require the Company to repurchase all or a portion of its Senior Notes for cash at a price equal to 101% of the principal amount of such Senior Notes, plus any accrued but unpaid interest, if any, to, but excluding, the date of repurchase.

The Indenture contains covenants that, among other things and subject to certain exceptions and qualifications, limit the Company’s ability and the ability of its restricted subsidiaries to: (i) incur or guarantee additional indebtedness or issue certain types of preferred stock; (ii) pay dividends or make other distributions or repurchase or redeem their capital stock; (iii) transfer or sell assets; (iv) make loans and investments; (v) incur liens; (vi) enter into agreements that restrict dividends or other payments from their non-guarantor restricted subsidiaries to them; (vii) consolidate, merge, or transfer all or substantially all of their assets; (viii) prepay, redeem, or repurchase certain debt; (ix) issue certain preferred stock or similar equity securities, (x) make certain acquisitions and investments; (xi) engage in transactions with affiliates; and (xii) create unrestricted subsidiaries. The Company was in compliance with the provisions of the Indenture at December 31, 2019.

Upon an event of default, the trustee or the holders of at least 25% in aggregate principal amount of then outstanding Senior Notes may declare the Senior Notes immediately due and payable, except that a default resulting from certain events of bankruptcy or insolvency with respect to the Company, any restricted subsidiary of the Company that is a significant subsidiary or any group of restricted subsidiaries that, taken together, would constitute a significant subsidiary, will automatically cause all outstanding Senior Notes to become due and payable.

The proceeds from the Senior Notes, together with cash on hand and borrowings under the 2018 ABL Credit Facility (as defined and described below), were used to (i) fund a portion of the upfront cash purchase price of the Magnum Acquisition, (ii) repay all indebtedness under the 2018 IPO Credit Agreement (as defined and described below) and (iii) pay fees and expenses associated with the issuance of the Senior Notes, the Magnum Acquisition, and the 2018 ABL Credit Facility.

During the year ended December 31, 2018, the Company paid approximately \$10.4 million of deferred financing costs in connection with the issuance of the Senior Notes. These costs are direct deductions from the carrying amount of the Senior Notes and are being amortized through interest expense through the maturity date of the Senior Notes using the effective interest method. The unamortized portion of these deferred financing costs was \$7.9 million and \$10.0 million at December 31, 2019 and 2018, respectively.

2018 ABL Credit Facility

On October 25, 2018, the Company entered into a credit agreement dated as of October 25, 2018 (the “2018 ABL Credit Agreement”), by and among the Company, Nine Energy Canada, Inc., JP Morgan Chase Bank, N.A. (“JP Morgan”) as administrative agent and as an issuing lender, and certain other financial institutions party thereto as lenders and issuing lenders. The 2018 ABL Credit Agreement permits aggregate borrowings of up to \$200.0 million, subject to a borrowing base, including a Canadian tranche with a sub-limit of up to \$25.0 million and a sub-limit of \$50.0 million for letters of credit (the “2018 ABL Credit Facility”). The 2018 ABL Credit Facility will mature on October 25, 2023 or, if earlier, on the date that is 180 days before the scheduled maturity date of the Senior Notes if they have not been redeemed or repurchased by such date.

Loans to the Company and its domestic related subsidiaries (the “U.S. Credit Parties”) under the 2018 ABL Credit

Facility may be base rate loans or London Interbank Offered Rate (“LIBOR”) loans; and loans to Nine Energy Canada Inc., a corporation organized under the laws of Alberta, Canada, and its restricted subsidiaries (the “Canadian Credit Parties”) under the Canadian tranche may be CDOR loans or Canadian prime rate loans. The applicable margin for base rate loans and Canadian prime rate loans vary from 0.75% to 1.25% and the applicable margin for LIBOR loans or CDOR loans vary from 1.75% to 2.25%, in each depending on the Company’s leverage ratio. The Company is permitted to repay any amounts borrowed prior to the maturity date without any premium or penalty subject to minimum amounts of prepayments and customary LIBOR breakage costs. In addition, a commitment fee of 0.50% per annum will be charged on the average daily unused portion of the revolving commitments. Such commitment fee is payable quarterly in arrears.

The 2018 ABL Credit Agreement contains various affirmative and negative covenants, including financial reporting requirements and limitations on indebtedness, liens, mergers, consolidations, liquidations and dissolutions, sales of assets, dividends and other restricted payments, investments (including acquisitions), and transactions with affiliates. In addition, the 2018 ABL Credit Agreement contains a minimum fixed charge ratio covenant of 1.00 to 1.00 that is tested quarterly when the availability under the 2018 ABL Credit Facility drops below a certain threshold or a default has occurred until the availability exceeds such threshold for 30 consecutive days and such default is no longer outstanding. The Company was in compliance with all covenants under the 2018 ABL Credit Agreement as of December 31, 2019.

The Company’s obligations under the 2018 ABL Credit Facility may be accelerated, subject to customary grace and cure periods, upon the occurrence of certain events of default. Such events of default include customary events for a financing agreement of this type, including payment defaults, the inaccuracy of representation and warranties, defaults in the performance of affirmative or negative covenants, defaults on other material indebtedness of the Company or certain of its subsidiaries, defaults related to judgments, and the occurrence of a change in control.

All of the obligations under the 2018 ABL Credit Facility are secured by first priority perfected security interests (subject to permitted liens) in substantially all of the personal property of U.S. Credit Parties, excluding certain assets. The obligations under the Canadian tranche are further secured by first priority perfected security interests (subject to permitted liens) in substantially all of the personal property of Canadian Credit Parties, excluding certain assets. The 2018 ABL Credit Facility is guaranteed by the U.S. Credit Parties, and the Canadian tranche is further guaranteed by the Canadian Credit Parties and the U.S. Credit Parties.

Concurrent with the effectiveness of the 2018 ABL Credit Facility, the Company borrowed approximately \$35.0 million to fund a portion of the upfront cash purchase of the Magnum Acquisition. The Company is permitted to repay any amounts borrowed prior to the maturity date without any premium or penalty, subject to minimum amounts of prepayments and customary LIBOR breakage costs. During the year ended December 31, 2019, the Company repaid its outstanding revolver borrowings in full.

At December 31, 2019, the Company’s availability under the 2018 ABL Credit Facility was approximately \$99.2 million, net of an outstanding letter of credit of \$0.2 million. The Company had no outstanding revolver borrowings.

2018 IPO Credit Agreement

On September 14, 2017, the Company entered into a credit agreement (as amended on November 20, 2017, the “2018 IPO Credit Agreement”) with JP Morgan as administrative agent and certain other financial institutions that became effective upon the consummation of the IPO in January 2018 (the “Effective Date”). Pursuant to the terms of the 2018 IPO Credit Agreement, the Company and its domestic restricted subsidiaries were entitled to borrow \$125.0 million of term loans (the “2018 IPO Term Loan Credit Facility”), which the Company drew in full on the Effective Date. In January 2018, the Company also made a mandatory prepayment of \$9.7 million against the 2018 IPO Term Loan Credit Facility, which approximated 50.0% of the estimated net proceeds from the IPO in excess of \$150.0 million, as prescribed under the 2018 IPO Credit Agreement.

In addition, under the 2018 IPO Credit Agreement, the Company and its domestic restricted subsidiaries were entitled to borrow up to \$50.0 million (including letters of credit) as revolving credit loans under the revolving commitments.

In the first quarter of 2018, concurrent with the effectiveness of the 2018 IPO Credit Agreement, using proceeds received from the IPO and borrowings under the 2018 IPO Term Loan Credit Facility, the Company fully repaid and terminated the term loans (the “Legacy Term Loans”) and revolving credit facilities (the “Legacy Revolving Credit Facilities”) under the Legacy Nine Credit Agreement (as defined below) and the Legacy Beckman Credit Agreement (as defined below).

All of the obligations under the 2018 IPO Credit Agreement were secured by first priority perfected security interests (subject to permitted liens) in substantially all of the personal property of the Company and its domestic restricted subsidiaries,

excluding certain assets.

Loans to the Company and its domestic restricted subsidiaries under the 2018 IPO Credit Agreement were either base rate loans or LIBOR loans. The applicable margin for base rate loans varied from 1.50% to 2.75%, and the applicable margin for LIBOR loans varied from 2.50% to 3.75%, in each case depending on the Company's leverage ratio. In addition, a commitment fee of 0.50% per annum was charged on the average daily unused portion of the revolving commitments. On October 25, 2018, the Company fully repaid and terminated the 2018 IPO Credit Agreement.

Legacy Term Loans and Legacy Revolving Credit Facilities

In 2014, the Company entered into the Amended and Restated Credit Agreement (as amended, the "Legacy Nine Credit Agreement") with HSBC Bank USA, N.A., as U.S. administrative agent, HSBC Bank Canada, as Canadian agent, and certain other financial institutions. All loans and other obligations under the Legacy Nine Credit Agreement were scheduled to mature on May 31, 2018.

In 2014, Beckman entered into a credit agreement (as amended, the "Legacy Beckman Credit Agreement" and together with the Legacy Nine Credit Agreement, the "Legacy Credit Agreements") with Wells Fargo Bank, National Association, as administrative agent, and certain other financial institutions. All loans and other obligations under the Legacy Beckman Credit Agreement were scheduled to mature on June 30, 2018. Concurrent with the effectiveness of the 2018 IPO Credit Agreement in January 2018, the Company repaid all indebtedness under the Legacy Credit Agreements, which approximated \$242.2 million.

As described above, in the first quarter of 2018, concurrent with the effectiveness of the 2018 IPO Credit Agreement, using proceeds received from the IPO and borrowings under the 2018 IPO Term Loan Credit Facility, the Company fully repaid and terminated the Legacy Term Loans and the Legacy Revolving Credit Facilities under the Legacy Nine Credit Agreement and the Legacy Beckman Credit Agreement.

Debt Extinguishment and Other Costs

During the year ended December 31, 2018, the Company recorded debt extinguishment costs of approximately \$1.9 million, which consisted of \$1.2 million in unamortized deferred financing costs associated with the termination of the 2018 IPO Credit Agreement in the fourth quarter of 2018 and \$0.7 million in unamortized deferred financing costs associated with the termination of the Legacy Nine Credit Agreement and the Legacy Beckman Credit Agreement in the first quarter of 2018. The unamortized deferred financing costs were being amortized through the maturity dates of each agreement using the effective interest method. In addition, the Company recorded a \$6.9 million commitment fee associated with a potential bridge financing in the fourth quarter of 2018. These costs are included in "Interest expense" in the Company's Consolidated Statements of Income and Comprehensive Income (Loss) for the year ended December 31, 2018.

Fair Value of Debt Instruments

The estimated fair value of the Company's debt obligations as of December 31, 2019 and 2018 was as follows:

	December 31,	
	2019	2018
	(in thousands)	
Senior Notes	\$ 324,000	\$ 376,000
2018 ABL Credit Facility	\$ —	\$ 35,000
2018 IPO Term Loan Credit Facility	\$ —	\$ —
Legacy Term Loans	\$ —	\$ —
Legacy Revolving Credit Facilities	\$ —	\$ —

The fair value of the Senior Notes is classified as Level 2 in the fair value hierarchy and is established based on observable inputs in less active markets. The 2018 ABL Credit Facility is also classified within Level 2 of the fair value hierarchy. The fair value of the 2018 ABL Credit Facility, approximates its carrying value.

10. Defined Contribution Plans

Background

Nine, Beckman, and Magnum sponsored defined contribution plans under Section 401(k) of the Internal Revenue

Code of 1986, as amended, for all qualified employees.

Effective January 1, 2018, the existing Nine Energy Service 401(k) Plan (the “Existing Nine Plan”) was terminated and merged with the Beckman 401(k) Plan (the “Beckman Plan”) into the new Nine Energy Service 401(k) Plan (the “New Nine Plan”). For the year ended December 31, 2018, under the New Nine Plan, employee contributions were matched by the Company as they were matched under the Existing Nine Plan, at 100% of the first 3% and 50% of the remaining up to 5% of the participant’s eligible compensation. Under the Beckman Plan, the Company had matched employee contributions at 50% of the first 5% of the participant’s eligible compensation.

Effective January 1, 2019, under the New Nine Plan, employee contributions were matched by the Company at 100% of the first 5% of the participant’s eligible compensation.

Effective April 1, 2019, the Magnum Oil Tools International Ltd. Profit Sharing & 401(k) Plan (the “Magnum Plan”) merged with the New Nine Plan. Prior to the merger, under the Magnum Plan, the Company had matched employee contributions at 100% of the first 3% and 50% of the remaining up to 5% of the participant’s eligible compensation.

Contributions

For the year ended December 31, 2019, the Company made employer contributions of \$4.8 million under the New Nine Plan and no contributions under the Magnum Plan.

For the year ended December 31, 2018, the Company made employer contributions of \$3.2 million under the New Nine Plan and \$0.2 million of contributions under the Magnum Plan.

For the year ended December 31, 2017, the Company made no contributions under the Existing Nine Plan. During 2017, for the Beckman Plan, the Company incurred a liability of \$0.6 million for contributions that were made in 2018.

11. Stock-based Compensation

Nine

Stock Options

Information about stock option activity during the years ended December 31, 2019 and 2018 was as follows:

2019 Activity	Number of Shares in Underlying Options	Weighted Average Exercise Price	Remaining Weighted Average Contractual Life in Years	Intrinsic Value (in thousands)
Beginning balance	957,659	\$ 31.98	6.9	\$ 6
Granted	—	—	—	—
Exercised	(674)	22.63	—	2
Forfeited	(28,050)	30.18	—	—
Expired	(112,508)	28.66	—	—
Total outstanding	816,427	\$ 32.51	5.8	\$ —
Options exercisable	704,944	\$ 32.99	5.5	\$ —

2018 Activity	Number of Shares in Underlying Options	Weighted Average Exercise Price	Remaining Weighted Average Contractual Life in Years	Intrinsic Value
				(in thousands)
Beginning balance	1,068,791	\$ 30.79	7.6	\$ 3,282
Granted	32,102	23.01	6.0	—
Exercised	(121,577)	20.71	—	1,728
Forfeited	(14,759)	29.80	—	5
Expired	(6,898)	28.07	—	—
Total outstanding	957,659	\$ 31.98	6.9	\$ 6
Options exercisable	667,922	\$ 33.20	6.2	\$ 3

The intrinsic value at December 31, 2019 and 2018 is the amount by which the fair value of the underlying share exceeds the exercise price of an option as of December 31, 2019 and 2018, respectively.

The Company granted no options in 2019. The assumptions used in the Black-Scholes pricing model to estimate the fair value of the options granted in 2018 and 2017 are as follows:

	2018	2017
Weighted average grant-date fair value	\$ 13.11	\$ 14.70
Assumptions		
Expected life (in years)	6.0	6.0
Volatility	47.0%	47.1%
Dividend yield	0.0%	0.0%
Risk free interest rate	2.47%	2.16%

Compensation expense recorded was approximately \$1.8 million, \$3.5 million, and \$3.3 million for the years ended December 31, 2019, 2018, and 2017, respectively. As of December 31, 2019, the Company expects to record compensation expense of approximately \$0.4 million over the remaining options term of approximately 0.5 years. Future stock option grants will result in additional compensation expense.

Restricted Stock and Restricted Stock Units

Information about restricted stock and restricted stock unit activity during the years ended December 31, 2019, 2018, and 2017 was as follows:

	2019	2018	2017
Nonvested at the beginning of the year	1,017,945	373,861	131,179
Beckman restricted stock converted to Nine restricted stock	—	—	91,961
Granted	666,173	805,897	302,797
Vested	(292,326)	(148,740)	(77,093)
Cancelled	(183,167)	(13,073)	(74,983)
Nonvested at the end of the year	<u>1,208,625</u>	<u>1,017,945</u>	<u>373,861</u>

The weighted-average grant date fair value of the restricted stock and restricted stock units granted was \$22.31, \$26.01, and \$31.18 during the years ended December 31, 2019, 2018, and 2017, respectively. The total amount of compensation expense related to the restricted stock and restricted stock units recorded was approximately \$11.7 million, \$9.7 million, and \$4.3 million for the years ended December 31, 2019, 2018, and 2017, respectively. As of December 31, 2019, the Company expects to record compensation expense related to restricted stock and restricted stock units of approximately \$16.4 million over the remaining term of approximately 1.7 years.

Performance Stock Units

The Company first granted performance stock units (“PSUs”) in 2019. The number of PSUs that will vest is contingent upon the Company’s achievement of certain specified targets. These awards have market conditions and were valued using a Monte Carlo simulation model.

The volatility of 49.7% was developed based upon the historical volatility of the Company as well as the volatilities of a group of peer companies, as the Company’s trading history needed to be supplemented with additional data as it went public in 2018. The risk-free rate, which was derived using the US Treasury security rates at the grant date, was 2.44%.

Beckman

Stock Options

During 2017, concurrent with the combination of Nine and Beckman, all Beckman stock options were converted to Nine stock options. All information related to Company stock option activity for the years ended December 31, 2019 and 2018 is shown in the “Nine – Stock Options” section above. Information about Beckman stock option activity for the year ended December 31, 2017 was as follows:

2017 Activity	Number of Shares in Underlying Options	Weighted Average Exercise Price	Remaining Weighted Average Contractual Life in Years	Intrinsic Value
				(in thousands)
Beginning balance	17,313	\$ 123.02	5.9	\$ —
Beckman options converted to Nine options	(17,313)	123.02	5.9	—
Granted	—	—	—	—
Exercised	—	—	—	—
Forfeited	—	—	—	—
Total outstanding	—	\$ —	—	\$ —
Options exercisable	—	\$ —	—	\$ —

The intrinsic value at December 31, 2017 is the amount by which the fair value of the underlying share exceeds the exercise price of an option as of December 31, 2017.

There was no compensation expense related to the Beckman options for the year ended December 31, 2017.

Restricted Stock

During 2017, concurrent with the combination of Nine and Beckman, all Beckman restricted stock was converted to Nine restricted stock. All information related to Company restricted stock activity for the years ended December 31, 2019 and 2018 is shown in the “Nine – Restricted Stock” section above. Information about Beckman restricted stock activity for the year ended December 31, 2017 was as follows:

	2017
Nonvested at the beginning of the year	20,225
Beckman restricted stock converted to Nine restricted stock	(20,225)
Granted	—
Vested	—
Cancelled	—
Nonvested at the end of the year	—

There was no compensation expense related to the Beckman restricted stock awards for the year ended December 31, 2017.

12. Commitments and Contingencies

Litigation

From time to time, the Company has various claims, lawsuits, and administrative proceedings that are pending or threatened with respect to personal injury, workers' compensation, contractual matters, and other matters. Although no assurance can be given with respect to the outcome of these claims, lawsuits, or proceedings or the effect such outcomes may have, the Company believes any ultimate liability resulting from the outcome of such claims, lawsuits, or administrative proceedings, to the extent not otherwise provided for or covered by insurance, will not have a material adverse effect on its business, operating results, or financial condition.

On August 31, 2017, an accident occurred while a five-employee crew of Big Lake Services, LLC, a subsidiary of Nine ("Big Lake Services"), was performing workover services at an oil and gas wellsite near Midland, Texas, operated by Pioneer Natural Resources USA, Inc. ("Pioneer Natural Resources"), resulting in the death of a Big Lake Services employee, Juan De La Rosa. On December 7, 2017, a lawsuit was filed on behalf of Mr. De La Rosa's minor children in the Midland County District Court against Pioneer Natural Resources, Big Lake Services, and Phillip Hamilton related to this accident. The petition alleged, among other things, that the defendants acted negligently, resulting in the death of Mr. De La Rosa. On March 14, 2018, a plea in intervention was filed on behalf of Mr. De La Rosa's parents, alleging similar claims. The plaintiffs and intervenors sought money damages, including punitive damages. On December 17, 2018, a mediation was held, and the parties reached an agreement in principle to settle this matter. In May 2019, the parties entered into settlement agreements, which have been approved by the court, and the court has dismissed the case. The Company has tendered this matter to its insurance company for defense and indemnification of Big Lake Services and the other defendants, and this settlement has been fully funded by its insurance company.

Leases

The Company leases equipment, vehicles, office space, yard facilities, and employee housing in the United States and in Canada where the Company operates, under leases classified as operating. The original lease terms require monthly rental payments and expire from 2019 through 2029. Other leases for various equipment and facilities are on a month-to-month basis or have expired during 2019. Total rent expense for all operating leases was approximately \$11.5 million, \$13.0 million, and \$7.2 million for the years ended December 31, 2019, 2018, and 2017, respectively.

The following schedule shows the future total minimum lease payments under these non-cancelable leases as of December 31, 2019:

Year Ending December 31,	(in thousands)	
2020	\$	10,597
2021		8,504
2022		7,485
2023		6,649
2024		4,470
Thereafter		17,105
	\$	<u>54,810</u>

Self-insurance

The Company uses a combination of third-party insurance and self-insurance for health insurance claims. The self-insured liability represents an estimate of the undiscounted ultimate cost of uninsured claims incurred as of the balance sheet date. The estimate is based on an analysis of trailing months of incurred medical claims to project the amount of incurred but not reported claims liability. The estimated liability for self-insured medical claims was \$1.8 million and \$1.6 million at December 31, 2019 and 2018, respectively, and is included under the caption "Accrued expenses" on the Company's Consolidated Balance Sheets.

Although the Company does not expect the amounts ultimately paid to differ significantly from the estimates, the self-insurance liability could be affected if future claims experience differs significantly from historical trends and actuarial assumptions.

Contingent Liabilities

Contingent liabilities as of December 31, 2019 and 2018 consisted of the following:

Magnum Earnout

The Magnum Purchase Agreement includes the potential for additional future payments in cash of (i) up to 60% of net income (before interest, taxes, and certain gains or losses) for the “E-Set” tools business in 2019 through 2026 and (ii) up to \$25.0 million based on sales of certain dissolvable plug products in 2019.

In 2019, the Company did not meet the sales requirement of certain dissolvable plug products during the year. As a result, the Company recorded a revaluation gain of approximately \$20.9 million related to that portion of the contingent liability.

Frac Tech Earnout

On October 1, 2018, pursuant to the terms and conditions of the Frac Tech Purchase Agreement, the Company acquired Frac Tech. The Frac Tech Purchase Agreement includes, among other things, the potential for additional future payments, based on certain Frac Tech sales volume metrics through December 31, 2023.

Scorpion Earnout

In connection with the acquisition of Pat Greenlee Builders, LLC (“Scorpion”) in 2015, the Company recorded a liability for contingent consideration to be paid in shares of Company common stock and in cash, contingent upon quantities of Scorpion Composite Plugs™ sold during 2016 and gross margin related to the product sales for three years following the acquisition.

The following is a reconciliation of the beginning and ending amounts of the contingent liabilities (Level 3) for the year ended December 31, 2019:

	Magnum	Frac Tech	Total
	(in thousands)		
Balance at January 1, 2019	\$ 24,521	\$ 1,008	\$ 25,529
Payments	—	(374)	(374)
Revaluation adjustments	(21,912)	725	(21,187)
Balance at December 31, 2019	<u>\$ 2,609</u>	<u>\$ 1,359</u>	<u>\$ 3,968</u>

The following is a reconciliation of the beginning and ending amounts of the contingent liabilities (Level 3) for the year ended December 31, 2018:

	Magnum	Frac Tech	Scorpion	Total
	(in thousands)			
Balance at January 1, 2018	\$ —	\$ —	\$ 1,730	\$ 1,730
Fair value of contingent earnout liability initially recorded in connection with the acquisitions	23,029	953	—	23,982
Payment	—	—	(3,445)	(3,445)
Revaluation adjustments	1,492	55	1,715	3,262
Balance at December 31, 2018	<u>\$ 24,521</u>	<u>\$ 1,008</u>	<u>\$ —</u>	<u>\$ 25,529</u>

The contingent consideration related to the contingent liabilities is reported at fair value, based on a Monte Carlo simulation model. Significant inputs used in the fair value measurement include estimated gross margin related to forecasted sales of the plugs, term of the agreement, and a risk adjusted discount factor. Contingent liabilities include \$0.4 million and \$20.9 million reported in “Accrued expenses” at December 31, 2019 and 2018, respectively, and \$3.6 million and \$4.6 million reported in “Other long-term liabilities” at December 31, 2019 and 2018, respectively, in the Company’s Consolidated Balance Sheets. The impact of the revaluation adjustments is included in the Company’s Consolidated Statements of Income and Comprehensive Income (Loss).

13. Taxes

The components of the provision (benefit) for income taxes for the years ended December 31, 2019, 2018, and 2017 were as follows:

	Year Ended December 31,		
	2019	2018	2017
	(in thousands)		
Current			
US federal	\$ (22)	\$ (93)	\$ (50)
US state	452	1,558	878
Foreign	10	12	—
Total current provision	440	1,477	828
Deferred			
US federal	(4,276)	767	(5,455)
US state	(51)	131	(360)
Foreign	—	—	—
Total deferred provision (benefit)	(4,327)	898	(5,815)
Total provision (benefit) for income taxes	\$ (3,887)	\$ 2,375	\$ (4,987)

The provision (benefit) for income taxes for the years ended December 31, 2019, 2018, and 2017 differed from the provision (benefit) calculated using the applicable statutory federal income tax rate as follows:

	Year Ended December 31,		
	2019	2018	2017
	(in thousands)		
Tax benefit at statutory rate	\$ (46,544)	\$ (10,628)	\$ (25,434)
Foreign rate differential	(364)	(56)	241
State income taxes, net of federal benefit	306	108	70
Impact on deferred taxes from Beckman Combination	—	—	(2,025)
Effects of Tax Act ⁽¹⁾			
Effect of tax rate reduction on deferred tax	—	—	6,649
Effect of tax rate reduction on deferred tax valuation	—	—	(9,668)
Nondeductible expenses	1,057	1,426	1,559
Impact from goodwill impairment	—	1,030	—
Valuation allowance (excluding impact of Tax Act) ⁽¹⁾	40,480	10,137	24,066
Other	1,178	358	(445)
Total provision (benefit) for income taxes	\$ (3,887)	\$ 2,375	\$ (4,987)

(1) On December 22, 2017, the United States enacted the Tax Cuts and Jobs Act (the “Tax Act”).

The tax effects of the cumulative temporary differences resulting in the net deferred tax asset (liabilities) at December 31, 2019 and 2018 were as follows:

	December 31,	
	2019	2018
(in thousands)		
Deferred income tax assets:		
Inventories	\$ 2,094	\$ 626
Goodwill and intangible assets	34,092	13,581
Deferred tax benefit from net losses	38,501	30,139
Stock-based compensation	5,976	4,635
Tax credit carryforwards	680	660
Accrued expenses	2,763	4,188
Interest carryover	3,459	—
Other	163	168
Total deferred income tax assets	87,728	53,997
Less: Valuation allowance	(79,912)	(28,862)
Net deferred income tax assets	7,816	25,135
Deferred income tax liabilities:		
Property and equipment	(9,404)	(31,050)
Prepaid expenses and other	—	—
Total deferred income tax liabilities	(9,404)	(31,050)
Net deferred income tax liability	\$ (1,588)	\$ (5,915)

As of December 31, 2019, the Company had federal and state net operating losses (“NOLs”) of approximately \$202.6 million. The federal NOLs related to tax years 2017 and prior can be used for a 20-year period and, if unused, will begin to expire in 2034. The state NOLs can be used from 10 to 20 years and vary by state. A small portion of state NOLs will begin to expire in 2023.

The Company evaluates its deferred tax assets on a quarterly basis to determine whether a valuation allowance is required. The Company assesses whether a valuation allowance should be established based on its determination of whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible and prior to the expiration of its NOL and tax credit carryforwards. The Company considers the scheduled reversal of deferred tax liabilities, projected future taxable income, and tax planning strategies in making this assessment. Due to recent operating results and goodwill impairments recorded during 2019, 2018, and 2017, the Company continues to be in a three-year cumulative loss position for the year ended December 31, 2019. According to FASB ASC 740, Income Taxes, cumulative losses in recent years represent significant negative evidence in considering whether deferred tax assets are realizable. As a result, the Company continues to record a valuation allowance against its U.S. domestic and Canadian deferred tax assets. The Company has excluded the deferred tax liabilities related to certain indefinite-lived intangible assets when calculating the amount of valuation allowance needed as these liabilities cannot be considered as a source of income when determining the realizability of the net deferred tax assets. The 2019 results include an increase in the Company’s valuation allowance of approximately \$51.1 million primarily due to the impairments recorded during the year. If the Company is able to generate sufficient taxable income in the future, and it becomes more likely than not that the Company will be able to fully utilize the net deferred tax assets on which a valuation allowance was recorded, the allowance will be released resulting in a potential decrease to its effective tax rate.

The Company is subject to U.S. federal income tax as well as income tax in multiple state jurisdictions. The earliest period the Company is subject to examination of federal income tax returns by the Internal Revenue Service is 2016. The state income tax returns and other state tax filings of the Company are subject to examination by the state taxing authorities for various periods, generally up to four years after they are filed.

The Company accounts for uncertain tax positions in accordance with guidance in FASB ASC 740, which prescribes the minimum recognition threshold a tax position taken or expected to be taken in a tax return is required to meet before being recognized in the financial statements. A reconciliation of the beginning and ending amount of uncertain tax positions is as follows:

	2019
	(in thousands)
Balance at January 1, 2019	\$ 568
Additional based on tax positions related to prior years	—
Additional based on tax positions related to current year	—
Reduction based on tax positions related to prior years	—
Lapse of statute of limitations	—
Balance at December 31, 2019	\$ 568

The total amount of unrecognized tax benefits at December 31, 2019 was \$0.6 million. The total balance of unrecognized tax benefit would impact the Company's future effective income tax rate if recognized. The Company recognizes interest and penalties related to uncertain tax positions within the provision for income taxes in its Consolidated Statements of Income and Comprehensive Income (Loss). As of December 31, 2019, no interest and penalties have been accrued.

14. Earnings (Loss) Per Share

Basic earnings (loss) per share is computed by dividing net income (loss) by the weighted average number of common shares outstanding for the period. Diluted earnings (loss) per share is based on the weighted average number of shares outstanding during each period and the exercise of potentially dilutive stock options assumed to be purchased from the proceeds using the average market price of the Company's stock for each of the periods presented as well as the potentially dilutive restricted stock, restricted stock units, and performance stock units.

Basic and diluted earnings (loss) per common share was computed as follows:

	2019	2018	2017
	(in thousands, except for share and per share amounts)		
Net loss	\$ (217,751)	\$ (52,983)	\$ (67,682)
Average shares outstanding	29,308,107	24,411,213	14,887,006
Loss per share (basic and diluted)	\$ (7.43)	\$ (2.17)	\$ (4.55)

The diluted earnings per share calculation excludes all stock options, unvested restricted stock, unvested restricted stock units, and unvested performance stock units for 2019, 2018, and 2017 because there is a net loss for each period and their inclusion would be anti-dilutive.

15. Related Party Transactions

During 2014, in conjunction with an exercise of warrants to provide a capital infusion, the Company issued promissory notes totaling \$2.5 million to both a former executive officer of the Company and a current manager of the Company. The principal was due on June 30, 2019 (the “Maturity Date”), and interest of 4% per annum had been due and was payable on the Maturity Date. During the fourth quarter of 2018, the Company received full payment on the notes, resulting in no outstanding balance and no unpaid interest at December 31, 2018.

As part of the acquisition of Crest Pumping Technologies, LLC (“Crest”) in 2014, the Company issued promissory notes totaling \$9.4 million to former owners of Crest, including David Crombie, who is an executive officer of the Company. The principal was due on June 30, 2019. The interest rate was based on the prime rate, the federal funds rate, or LIBOR, plus a margin to be determined in connection with the Company’s credit agreement and was due quarterly. Mr. Crombie paid \$1.8 million during 2016 to pay his promissory note in full. At December 31, 2018, the outstanding principal balance of the notes of the remaining individuals totaled \$7.6 million and unpaid interest, included in “Prepaid expenses and other current assets” in the Company’s Consolidated Balance Sheets, totaled \$10,000. During the second quarter of 2019, the Company received the full principal balance of the notes outstanding as well as all unpaid interest.

The Company leases office space, yard facilities, and equipment and purchases building maintenance services from entities owned by Mr. Crombie. Total lease expense and building maintenance expense associated with these entities was \$0.8 million, \$0.8 million, and \$0.8 million for the years ended December 31, 2019, 2018, and 2017, respectively. The Company also purchased of equipment of \$1.4 million and \$1.0 million for the years ended December 31, 2019 and 2018, respectively, from an entity in which Mr. Crombie is a limited partner. There were outstanding payables due to this entity relating to equipment purchases of \$0.1 million at the year ended December 31, 2019.

In addition, the Company leases office space in Corpus Christi and Midland, Texas from an entity affiliated with Lynn Frazier, a beneficial owner of more than 5% of the Company’s stock. Total rental expense associated with this office space was \$1.5 million and \$0.2 million for the years ended December 31, 2019 and 2018, respectively.

At December 31, 2018, the Company had an open receivable due from the sellers of Magnum primarily attributed to sales commissions paid to an intercompany entity that was not included in the Magnum Acquisition. The Company received payment in full in the first quarter of 2019.

The Company provides services to Citation Oil & Gas Corp. (“Citation”), an entity owned by a director of the Company. The Company billed \$0.4 million, \$0.7 million, and \$0.7 million for services provided to Citation during the years ended December 31, 2019, 2018, and 2017, respectively. There was an outstanding receivable due from Citation of \$0.1 million as of December 31, 2018.

The Company provides services to EOG Resources, Inc. (“EOG”). Gary L. Thomas, a director of the Company, acted as the President of EOG until his retirement on December 31, 2018. The Company generated revenue from EOG of \$45.0 million and \$34.4 million during the years ended December 31, 2018 and 2017, respectively. There was an outstanding receivable due from EOG of \$7.0 million at December 31, 2018.

The Company purchases cable for its wireline trucks from an entity owned by Forum Energy Technologies (“Forum”). Two of the Company’s directors also serve as directors of Forum. The Company was billed \$1.9 million, \$1.7 million, and \$1.2 million for cable during the years ended December 31, 2019, 2018, and 2017, respectively. There was an outstanding payable due to the entity of \$0.3 million and \$0.1 million at December 31, 2019 and 2018, respectively. The Company purchases coiled tubing string from another entity owned by Forum. The Company was billed \$8.0 million, \$8.1 million, and \$5.0 million for coiled tubing string during the years ended December 31, 2019, 2018, and 2017, respectively. There was an outstanding payable due to the entity of \$0.9 million on December 31, 2019.

The Company purchases chemical additives used in cementing from Select Energy Services, Inc. (“Select”). One of the Company’s directors also serves as a director of Select. The Company was billed \$2.1 million, \$2.0 million, and \$1.8 million for chemicals during the years ended December 31, 2019, 2018, and 2017, respectively. There was an outstanding payable due to Select of \$0.1 million at December 31, 2019.

During the fourth quarter of 2019, the Company sold coiled tubing equipment for \$5.9 million to National Energy Services Reunited (“NESR”). One of the Company’s directors also serves as a director of NESR. In 2019, the Company provided \$0.9 million of products and rentals to NESR. At December 31, 2019, there was a receivable of \$6.8 million for the coiled tubing equipment and the products and services.

On June 5, 2019, Ann G. Fox, President and Chief Executive Officer and a director of the Company, was elected as a director of Devon Energy Corporation (“Devon”). The Company generated revenue from Devon of \$18.4 million for the year ended December 31, 2019. There was an outstanding receivable due from Devon of \$1.0 million at December 31, 2019.

16. Segment Information

On August 30, 2019, the Company sold its *Production Solutions* segment to Brigade. For additional information on the *Production Solutions* divestiture, see Note 3 – Divestitures, Acquisitions, and Combinations. Prior to the *Production Solutions* Divestiture Date, the Company reported its results in two segments, the *Completion Solutions* segment and the *Production Solutions* segment. As a result of the Company’s sale of its *Production Solutions* segment, the Company considers the *Completion Solutions* segment to be its operating and reporting segment. This segmentation is representative of the manner in which the Chief Operating Decision Maker (“CODM”) and its Board of Directors view the business in allocating resources and measuring financial performance. The Company considers the CODM to be its Chief Executive Officer.

Financial data through the *Production Solutions* Divestiture Date is reported below for the *Production Solutions* segment. The amounts labeled “Corporate” relate to assets not allocated to either the *Completion Solutions* segment or the *Production Solutions* segment.

	Year Ended December 31,		
	2019	2018	2017
	(in thousands)		
Revenues			
<i>Completion Solutions</i>	\$ 774,665	\$ 745,316	\$ 465,773
<i>Production Solutions</i>	58,272	81,858	77,887
	<u>\$ 832,937</u>	<u>\$ 827,174</u>	<u>\$ 543,660</u>
Cost of revenues (exclusive of depreciation and amortization shown separately below)			
<i>Completion Solutions</i>	\$ 620,125	\$ 568,497	\$ 384,641
<i>Production Solutions</i>	49,854	70,801	63,826
	<u>\$ 669,979</u>	<u>\$ 639,298</u>	<u>\$ 448,467</u>
Adjusted gross profit			
<i>Completion Solutions</i>	\$ 154,540	\$ 176,819	\$ 81,132
<i>Production Solutions</i>	8,418	11,057	14,061
	<u>\$ 162,958</u>	<u>\$ 187,876</u>	<u>\$ 95,193</u>
General and administrative expenses	81,327	73,078	49,505
Depreciation	50,544	54,257	53,422
Amortization of intangibles	18,367	9,558	8,799
Impairment of property and equipment	66,200	45,694	—
Impairment of goodwill	20,273	12,986	31,530
Impairment of intangibles	114,804	19,065	3,800
(Gain) loss on revaluation of contingent liabilities	(21,187)	3,262	415
Loss on sale of subsidiaries	15,896	—	—
(Gain) loss on sale of property and equipment	(538)	(1,731)	4,688
Loss from operations	<u>\$ (182,728)</u>	<u>\$ (28,293)</u>	<u>\$ (56,966)</u>
Non-operating expenses	38,910	22,315	15,703
Loss before income taxes	<u>(221,638)</u>	<u>(50,608)</u>	<u>(72,669)</u>
Provision (benefit) for income taxes	(3,887)	2,375	(4,987)
Net loss	<u><u>\$ (217,751)</u></u>	<u><u>\$ (52,983)</u></u>	<u><u>\$ (67,682)</u></u>

Capital expenditures by segment for years ended December 31, 2019, 2018, and 2017 were as follows:

	Year Ended December 31,		
	2019	2018	2017
	(in thousands)		
Completion Solutions	\$ 59,231	\$ 48,361	\$ 40,626
Production Solutions	2,790	3,548	4,590
Corporate	93	661	—
	<u>\$ 62,114</u>	<u>\$ 52,570</u>	<u>\$ 45,216</u>

Total assets by segment as of December 31, 2019 and 2018 were as follows:

	December 31,	
	2019	2018
	(in thousands)	
Completion Solutions	\$ 739,142	\$ 1,045,643
Production Solutions	—	35,086
Corporate	111,753	60,443
	<u>\$ 850,895</u>	<u>\$ 1,141,172</u>

Revenue by country for the years ended December 31, 2019, 2018, and 2017 were as follows:

	2019		2018		2017	
	Amount	Percentage	Amount	Percentage	Amount	Percentage
	(in thousands)		(in thousands)		(in thousands)	
United States	\$ 814,639	97.8%	\$ 796,221	96.3%	\$ 521,914	96.0%
Canada and other	18,298	2.2%	30,953	3.7%	21,746	4.0%
	<u>\$ 832,937</u>	<u>100.0%</u>	<u>\$ 827,174</u>	<u>100.0%</u>	<u>\$ 543,660</u>	<u>100.0%</u>

Long-lived assets (defined as property and equipment and definite-lived intangible assets) by country as of December 31, 2019 and 2018 were as follows:

	December 31,	
	2019	2018
	(in thousands)	
United States	\$ 271,791	\$ 377,623
Canada and other	4,804	7,472
	<u>\$ 276,595</u>	<u>\$ 385,095</u>

17. Quarterly Financial Data (Unaudited)

Summarized quarterly financial data for the years ended December 31, 2019 and 2018 is presented below.

	March 31, 2019	June 30, 2019	September 30, 2019	December 31, 2019
	(in thousands, except per share amounts)			
Revenue	\$ 229,705	\$ 237,517	\$ 202,305	\$ 163,410
Income (loss) from operations	26,936	13,955	(10,168)	(213,451)
Income (loss) before income taxes	17,770	3,352	(19,900)	(222,860)
Net income (loss)	17,310	6,087	(20,627)	(220,521)
Earnings (loss) per common share				
Basic	\$ 0.59	\$ 0.21	\$ (0.70)	\$ (7.51)
Diluted	\$ 0.59	\$ 0.21	\$ (0.70)	\$ (7.51)

	March 31, 2018	June 30, 2018	September 30, 2018	December 31, 2018
	(in thousands, except per share amounts)			
Revenue	\$ 173,807	\$ 205,492	\$ 218,427	\$ 229,448
Income (loss) from operations	4,698	11,486	16,356	(60,833)
Income (loss) before income taxes	1,768	9,671	14,788	(76,835)
Net income (loss)	1,675	9,019	13,658	(77,335)
Earnings (loss) per common share				
Basic	\$ 0.08	\$ 0.38	\$ 0.57	\$ (2.78)
Diluted	\$ 0.08	\$ 0.37	\$ 0.56	\$ (2.78)

Additional Notes

As a result of the shares issued during the year, earnings (loss) per share for each of the year's four quarters, which are based on weighted average shares outstanding during each quarter, may not equal the annual earnings (loss) per share as reflected on the Company's Consolidated Balance Sheets.

In the third quarter of 2019, the Company sold the *Production Solutions* segment to Brigade. For additional information on the divestiture of the *Production Solutions* segment, see Note 3 – Divestitures, Acquisitions, and Combinations.

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***

Disclosure controls and procedures are designed to provide reasonable assurance that information required to be disclosed by us in the reports we file or submit under the Exchange Act, is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosure and is recorded, processed, summarized, and reported within the time periods specified in the rules and forms of the SEC. As required by Rule 13a-15(b) under the Exchange Act, our management, with the participation of our principal executive officer and principal financial officer, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of December 31, 2019. Based upon that evaluation, our principal executive officer and principal financial officer concluded that our disclosure controls and procedures were not effective as of December 31, 2019, due to the material weakness in internal control over financial reporting described below.

Management's 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 Rule 15d-15(f) under the Exchange Act). Our internal control over financial reporting is a process designed under the supervision of our principal executive officer and principal financial officer, and effected by our board of directors, management, and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of our financial statements for external purposes in accordance with GAAP.

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

As of December 31, 2019, our management assessed the effectiveness of our internal control over financial reporting based on the criteria for effective internal control over financial reporting established by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO") in *Internal Control-Integrated Framework* (2013). Based on its assessment using the COSO criteria, management has concluded that our internal control over financial reporting was not effective as of December 31, 2019, due to the material weakness in internal control over financial reporting as described below.

As reported in Item 9A of our Annual Report on Form 10-K for the year ended December 31, 2018, we did not design and maintain adequate controls to address the segregation of certain accounting duties related to journal entries, account reconciliations, and other accounting functions. Certain accounting personnel had the ability to prepare and post journal entries, as well as reconcile accounts, without an independent review by someone other than the preparer. Specifically, our internal controls were not designed or operating effectively to evidence that journal entries were appropriately recorded or were properly reviewed for validity, accuracy, and completeness. Immaterial misstatements were identified related to the inadequate segregation of accounting duties. This material weakness could result in misstatement of the aforementioned accounts and disclosures that would result in a material misstatement in our annual or interim consolidated financial statements that would not be prevented or detected on a timely basis.

Remediation Efforts to Address the Material Weakness

In response to the material weakness identified above, our management has performed the following:

- Replaced the less sophisticated accounting systems used by the majority of our newly acquired subsidiaries with the enterprise resource planning system used by the majority of our existing subsidiaries.
- Hired additional resources, including an experienced Internal Audit Director to lead the Company's internal audit department, with responsibility for direction and oversight of all internal audit functions.

In addition, our management is in the process of performing the following:

- Continuing to develop and implement additional controls and procedures and enhance existing controls and procedures to ensure the segregation of certain accounting duties related to journal entries, account reconciliations, and other accounting functions.

Until the remediation steps listed set forth above are fully developed, implemented, and operating for a sufficient amount of time to validate the remediation, the material weakness described above will continue to exist.

Attestation Report of the Independent Registered Public Accounting Firm

This Annual Report does not include an attestation report of our independent registered public accounting firm regarding internal control over financial reporting. Management's report on internal control over financial reporting was not subject to attestation by our independent registered public accounting firm pursuant to rules of the SEC that permit us to provide only management's report in this Annual Report.

Changes in Internal Control over Financial Reporting

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

Item 9B. Other Information

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The information required in response to this item will be set forth in our definitive proxy statement for the 2020 annual meeting of stockholders and is incorporated herein by reference.

Item 11. Executive Compensation

The information required in response to this item will be set forth in our definitive proxy statement for the 2020 annual meeting of stockholders and is incorporated herein by reference.

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

The information required in response to this item will be set forth in our definitive proxy statement for the 2020 annual meeting of stockholders and is incorporated herein by reference.

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

The information required in response to this item will be set forth in our definitive proxy statement for the 2020 annual meeting of stockholders and is incorporated herein by reference.

Item 14. Principal Accounting Fees and Services

The information required in response to this item will be set forth in our definitive proxy statement for the 2020 annual meeting of stockholders and is incorporated herein by reference.

PART IV

Item 15. Exhibits, Financial Statement Schedules

(a) Documents Filed as Part of This Annual Report

1. Financial Statements

The following consolidated financial statements of the Company are filed as a part of this Annual Report:

Report of Independent Registered Public Accounting Firm	F-1
Consolidated Balance Sheets as of December 31, 2019 and 2018	F-2
Consolidated Statements of Income and Comprehensive Income (Loss) for the Years Ended December 31, 2019, 2018, and 2017	F-3
Consolidated Statements of Changes in Shareholders' Equity for the Years Ended December 31, 2019, 2018, and 2017	F-4
Consolidated Statements of Cash Flows for the Years Ended December 31, 2019, 2018, and 2017	F-5
Notes to Consolidated Financial Statements	F-6

2. Financial Statement Schedules

All financial statement schedules have been omitted because they are not applicable, or the required information is presented in the consolidated financial statements and related notes.

3. Exhibits

The exhibits to this Annual Report required to be filed pursuant to Item 15(b) are listed below.

<u>Exhibit Number</u>	<u>Description</u>
2.1†	Securities Purchase Agreement, dated as of October 15, 2018, by and among Warren Lynn Frazier, Garrett Lynn Frazier 2018 DG Trust, Derrick Chase Frazier 2018 DG Trust, Frazier Family Foundation, Inc., as sellers, Warren Lynn Frazier, solely in his capacity as seller representative, MOTI Holdco, LLC and Nine Energy Canada Inc., as buyers, Nine Energy Service, Inc. and certain other parties named therein (Incorporated by reference to Exhibit 2.1 of Nine Energy Service, Inc.'s Current Report on Form 8-K filed on October 15, 2018).
2.2	First Amendment to Securities Purchase Agreement, dated June 7, 2019, by and among Warren Lynn Frazier, Garrett Lynn Frazier 2018 DG Trust, Derrick Chase Frazier 2018 DG Trust, and Frazier Family Foundation, Inc., as sellers, MOTI Holdco, LLC and Nine Energy Canada Inc., as buyers, and Nine Energy Service, Inc. (Incorporated by reference to Exhibit 2.2 of Nine Energy Service, Inc.'s Quarterly Report on Form 10-Q filed August 12, 2019).
2.3†^	Membership Interest Purchase Agreement, dated August 30, 2019, by and between Brigade Energy Services LLC and Nine Energy Service, Inc. (Incorporated by reference to Exhibit 2.1 of Nine Energy Service, Inc.'s Current Report on Form 8-K filed on September 6, 2019).
3.1	Third Amended and Restated Certificate of Incorporation of Nine Energy Service, Inc., dated January 23, 2018 (Incorporated by reference to Exhibit 3.1 of Nine Energy Service, Inc.'s Current Report on Form 8-K filed on January 23, 2018).
3.2	Fourth Amended and Restated Bylaws of Nine Energy Service, Inc., dated January 23, 2018 (Incorporated by reference to Exhibit 3.2 of Nine Energy Service, Inc.'s Current Report on Form 8-K filed on January 23, 2018).
4.1	Form of Common Stock Certificate (Incorporated by reference to Exhibit 4.1 of Nine Energy Service, Inc.'s Amendment No. 2 to Registration Statement on Form S-1 filed on May 24, 2017).
4.2	Second Amended and Restated Stockholders Agreement, dated as of February 28, 2017, by and among Nine Energy Service, Inc. and the parties thereto (Incorporated by reference to Exhibit 4.2 of Nine Energy Service, Inc.'s Amendment No. 2 to Registration Statement on Form S-1 filed on May 24, 2017).
4.3	First Amendment to Second Amended and Restated Stockholders Agreement, dated as of July 24, 2017, by and among Nine Energy Service, Inc. and the parties thereto (Incorporated by reference to Exhibit 4.3 of Nine Energy Service, Inc.'s Amendment No. 3 to Registration Statement on Form S-1 filed on August 14, 2017).

- 4.4 [Indenture, dated as of October 25, 2018, by and among Nine Energy Service, Inc., the guarantors party thereto and Wells Fargo Bank, National Association, as trustee \(including Form of Note\) \(Incorporated by reference to Exhibit 4.1 of Nine Energy Service, Inc.'s Current Report on Form 8-K filed on October 26, 2018\).](#)
- 4.5* [Supplemental Indenture and Guarantee, dated as of November 23, 2018, by and among MOTI Holdco, LLC, Magnum Oil Tools GP, LLC, and Magnum Oil Tools International, LTD, Nine Energy Service, Inc. and certain other subsidiaries and Wells Fargo Bank, National Association, as a trustee \(Incorporated by reference to Exhibit 4.5 of Nine Energy Service, Inc.'s Annual Report on Form 10-K filed on March 7, 2019\).](#)
- 4.6 [Registration Rights Agreement, dated as of October 25, 2018, by and among Nine Energy Service, Inc., the former owners of the equity interests of Magnum Oil Tools International, LTD, Magnum Oil Tools Canada Ltd, and Magnum Oil Tools GP, LLC and the other holders that may become party thereto from time to time \(Incorporated by reference to Exhibit 4.2 of Nine Energy Service, Inc.'s Current Report on Form 8-K filed on October 26, 2018\).](#)
- 4.7* [Description of Common Stock.](#)
- 10.1 [Credit Agreement, dated as of October 25, 2018, by and among Nine Energy Service, Inc., Nine Energy Canada Inc., JPMorgan Chase Bank, N.A. and certain other financial institutions \(Incorporated by reference to Exhibit 10.1 of Nine Energy Service, Inc.'s Current Report on Form 8-K filed on October 26, 2018\).](#)
- 10.2+ [Form of Indemnification Agreement between Nine Energy Service, Inc. and its directors and certain officers \(Incorporated by reference to Exhibit 10.10 of Nine Energy Service, Inc.'s Amendment No. 2 to Registration Statement on Form S-1 filed on May 24, 2017\).](#)
- 10.3+ [Nine Energy Service, Inc. 2011 Stock Incentive Plan, as amended and restated effective February 28, 2017 \(Incorporated by reference to Exhibit 10.10 of Nine Energy Service, Inc.'s Registration Statement on Form S-1 filed on May 2, 2017\).](#)
- 10.4+ [Form of Nine Energy Service, Inc. Restricted Stock Agreement for Executives \(Incorporated by reference to Exhibit 10.1 of Nine Energy Service, Inc.'s Quarterly Report on Form 10-Q filed on May 14, 2018\).](#)
- 10.5+ [Form of Nine Energy Service, Inc. Nonstatutory Stock Option Agreement for Executives \(Incorporated by reference to Exhibit 10.2 of Nine Energy Service, Inc.'s Quarterly Report on Form 10-Q filed on May 14, 2018\).](#)
- 10.6+ [Form of Nine Energy Service, Inc. Restricted Stock Agreement for Non-Employee Directors \(Incorporated by reference to Exhibit 10.3 of Nine Energy Service, Inc.'s Quarterly Report on Form 10-Q filed on May 14, 2018\).](#)
- 10.7+ [Form of Nine Energy Service, Inc. Nonstatutory Stock Option Agreement for Non-Employee Directors \(Incorporated by reference to Exhibit 10.4 of Nine Energy Service, Inc.'s Quarterly Report on Form 10-Q filed on May 14, 2018\).](#)
- 10.8+ [Form of Nine Energy Service, Inc. Performance Share Unit Grant Notice and Form of Performance Share Unit Agreement \(Incorporated by reference to Exhibit 10.1 of Nine Energy Service, Inc.'s Quarterly Report on Form 10-Q filed on May 8, 2019\).](#)
- 10.9+ [Amended and Restated Employment Agreement, dated August 28, 2018, by and between Nine Energy Service, LLC and Ann G. Fox \(Incorporated by reference to Exhibit 10.1 of Nine Energy Service, Inc.'s Current Report on Form 8-K filed on August 30, 2018\).](#)
- 10.10+ [Amended and Restated Employment Agreement between Clinton Roeder and Nine Energy Service, LLC, dated as of November 20, 2018 \(Incorporated by reference to Exhibit 10.2 of Nine Energy Service, Inc.'s Current Report on Form 8-K filed on November 26, 2018\).](#)
- 10.11+ [Amended and Restated Employment Agreement between David Crombie and Nine Energy Service, LLC, dated as of November 20, 2018 \(Incorporated by reference to Exhibit 10.1 of Nine Energy Service, Inc.'s Current Report on Form 8-K filed on November 26, 2018\).](#)
- 10.12+ [Amended and Restated Employment Agreement between Edward Bruce Morgan and Nine Energy Service, LLC, dated as of November 20, 2018 \(Incorporated by reference to Exhibit 10.3 of Nine Energy Service, Inc.'s Current Report on Form 8-K filed on November 26, 2018\).](#)
- 10.13+ [First Amendment to Amended and Restated Employment Agreement, by and among Nine Energy Service, LLC, Nine Energy Service, Inc. and Edward Bruce Morgan, effective as of August 30, 2019 \(Incorporated by reference to Exhibit 10.1 of Nine Energy Service, Inc.'s Current Report on Form 8-K filed on September 6, 2019\).](#)

10.14+	<u>Amended and Restated Employment Agreement between Theodore R. Moore and Nine Energy Service, LLC, dated as of November 20, 2018 (Incorporated by reference to Exhibit 10.4 of Nine Energy Service, Inc.'s Current Report on Form 8-K filed on November 26, 2018).</u>
21.1*	<u>List of Subsidiaries of Nine Energy Service, Inc.</u>
23.1*	<u>Consent of PricewaterhouseCoopers LLP.</u>
31.1*	<u>Certification by Chief Executive Officer pursuant to Rule 13a-14(a) and 15d-14(a) of the Exchange Act Rules, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</u>
31.2*	<u>Certification by Chief Financial Officer pursuant to Rule 13a-14(a) and 15d-14(a) of the Exchange Act Rules, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</u>
32.1**	<u>Certifications by Chief Executive Officer pursuant to Title 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of Sarbanes-Oxley Act of 2002.</u>
32.2**	<u>Certifications by Chief Financial Officer pursuant to Title 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of Sarbanes-Oxley Act of 2002.</u>
101*	Interactive Data Files.

* Filed herewith.

** Furnished herewith.

† Certain schedules and similar attachments have been omitted pursuant to Item 601(a)(5) of Regulation S-K and will be provided to the SEC upon request.

^ Pursuant to Item 601(b)(2) of Regulation S-K, certain immaterial provisions of the agreement that would likely cause competitive harm to the Company if publicly disclosed have been redacted. The Company hereby undertakes to furnish supplementally an unredacted copy of the agreement to the SEC upon request; provided, however, that the Company may request confidential treatment pursuant to Rule 24b-2 of the Exchange Act for any documents so furnished.

+ Management contract or compensatory plan or arrangement.

Item 16. Form 10-K Summary.

None.

DESCRIPTION OF COMMON STOCK

Throughout this exhibit, the terms “Nine,” “we,” “us,” “our” and the “Company” refer to Nine Energy Service, Inc. and “SCF” refers to SCF-VII, L.P. and SCF-VII(A), L.P., collectively. The following summary of terms of our common stock, par value \$0.01 per share (our “Common Stock”), is based upon the Third Amended and Restated Certificate of Incorporation of the Company (our “Charter”) and the Fourth Amended and Restated of the Company Bylaws (our “Bylaws”). This summary is not complete and is subject to, and qualified in its entirety by reference to, our Charter, our Bylaws and the applicable provisions of Delaware law.

Common Stock

We are currently authorized to issue up to 120,000,000 shares of our Common Stock. Except as provided by law or in a preferred stock designation, holders of our Common Stock are entitled to one vote for each share held of record on all matters submitted to a vote of the stockholders. Because holders of our Common Stock have the exclusive right to vote for the election of directors and do not have cumulative voting rights, the holders of a majority of the shares of our Common Stock can elect all of the members of the board of directors standing for election, subject to the rights, powers and preferences of any outstanding series of preferred stock.

Subject to the rights and preferences of any preferred stock that we may issue in the future, the holders of our Common Stock are entitled to receive dividends as may be declared by our board of directors and all of our assets available for distribution to holders of our Common Stock in liquidation, pro rata, based on the number of shares held. There are no redemption, conversion or sinking fund provisions applicable to our Common Stock.

Preferred Stock

Subject to the provisions of our Charter and legal limitations, our board of directors has the authority, without further vote or action by our stockholders, to issue up to 20,000,000 shares of preferred stock in one or more series and to fix the rights, preferences, privileges and restrictions of our preferred stock, including provisions related to dividends, conversion, voting, redemption, liquidation and the number of shares constituting the series or the designation of that series, which may be superior to those of our Common Stock. As of March 9, 2020, there are no shares of preferred stock outstanding and we have no present plans to issue any preferred stock.

The issuance of shares of preferred stock by our board of directors as described above may adversely affect the rights of the holders of our Common Stock. For example, preferred stock may rank prior to our Common Stock as to dividend rights, liquidation preference or both, may have full or limited voting rights and may be convertible into shares of our Common Stock. The issuance of shares of preferred stock may discourage third-party bids for our Common Stock or may otherwise adversely affect the market price of our Common Stock. In addition, preferred stock may enable our board of directors to make it more difficult or to discourage attempts to obtain control of us through a hostile tender offer, proxy contest, merger or otherwise, or to make changes in our management.

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

Some provisions of Delaware law, our Charter and our Bylaws could make certain change of control transactions more difficult, including acquisitions of us by means of a tender offer, a proxy contest or otherwise, as well as removal of our incumbent officers and directors. These provisions may also have the effect of preventing changes in our management. It is possible that these provisions could make it more difficult to accomplish or could deter transactions that stockholders may otherwise consider to be in their best interest or in our best interests, including transactions that might result in a premium over the market price for our shares. Therefore, these provisions could adversely affect the price of our Common Stock.

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

Opt Out of Section 203 of the Delaware General Corporation Law (the "DGCL")

In our Charter, we have elected not to be subject to the provisions of Section 203 of the DGCL regulating corporate takeovers until the date on which the SCF Group (as defined therein) is no longer the holder of at least 15% of our outstanding Common Stock. On and after such date, we will be subject to the provisions of Section 203 of the DGCL. In general, those provisions prohibit a Delaware corporation, including those whose securities are listed for trading on the New York Stock Exchange, from engaging in any business combination with any interested stockholder for a period of three years following the date that the stockholder became an interested stockholder, unless: (a) the transaction is approved by the board of directors before the date the interested stockholder attained that status, (b) upon consummation of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, or (c) on or after the date the interested stockholder attained that status, the business combination is approved by the board of directors and authorized at a meeting of stockholders by at least two-thirds of the outstanding voting stock that is not owned by the interested stockholder.

Our Charter and Bylaws

Among other things, our Charter and/or Bylaws:

- establish advance notice procedures with regard to stockholder proposals relating to the nomination of candidates for election as directors or new business to be brought before meetings of our stockholders. These procedures provide that notice of stockholder proposals must be timely given in writing to our corporate secretary prior to the meeting at which the action is to be taken. Generally, to be timely, notice must be received at our principal executive offices not less than 90 days nor more than 120 days prior to the first anniversary date of the annual meeting for the preceding year's annual meeting. Our Bylaws specify the requirements as to form and content of all stockholders' notices;
- authorize our board of directors to issue undesignated preferred stock. This ability makes it possible for our board of directors to issue, without stockholder approval, preferred stock with voting or other rights or preferences that could impede the success of any attempt to change control of us;
- provide that the authorized number of directors may be changed only by resolution of the board of directors;
- provide that all vacancies, including newly created directorships, may, except as otherwise required by law or, if applicable, the rights of holders of a series of preferred stock, be filled by the affirmative vote of a majority of the total number of directors then in office, even if less than a quorum;
- provide that any action required or permitted to be taken by the stockholders must be effected at a duly called annual or special meeting of stockholders and may not be effected by any consent in writing in lieu of a meeting of such stockholders, subject to the rights of the holders of any series of preferred stock with respect to such series;

- provide that special meetings of our stockholders may only be called by a majority of the total number of directors;
- provide that our board of directors be divided into three classes of directors, with each class as nearly equal in number as possible, serving staggered three-year terms, other than directors who may be elected by holders of preferred stock, if any;
- provide that we renounce any interest or expectancy in any business opportunity (existing and future) that involves any aspect of the energy business or industry and that may be from time to time presented to SCF or any director or officer of the corporation who is also an employee, partner, member, manager, officer or director of any SCF entity, and that such persons have no obligation to offer us those investments or opportunities;
- provide that our Charter and Bylaws may be amended by the affirmative vote of the holders of at least two-thirds of our then outstanding Common Stock (except with respect to provisions relating to the renouncement business opportunities, which require approval of at least 80% of the voting power of the outstanding stock entitled to vote thereon);
- a member of our board of directors may only be removed for cause and only by the affirmative vote of the holders of at least two-thirds of our then outstanding Common Stock; and
- unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware will, to the fullest extent permitted by applicable law, be the sole and exclusive forum for (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers, employees or agents to us or our stockholders, (iii) any action asserting a claim against us or any director or officer or other employee of ours arising pursuant to any provision of the DGCL, our Charter or our Bylaws, or (iv) any action asserting a claim against us or any director or officer or other employee of ours that is governed by the internal affairs doctrine, in each such case subject to such Court of Chancery having personal jurisdiction over the indispensable parties named as defendants therein. Although we believe these provisions benefit us by providing increased consistency in the application of Delaware law for the specified types of actions and proceedings, the provisions may have the effect of discouraging lawsuits against our directors, officers, employees and agents. The choice of forum provisions summarized above are not intended to apply to actions arising under the Securities Exchange Act of 1934, as amended, or the Securities Act of 1933, as amended. The Court of Chancery of the State of Delaware has recently held that a Delaware corporation can only use its constitutive documents to bind a plaintiff to a particular forum where the claim involves rights or relationships that were established by or under Delaware's corporate law.

List of Subsidiaries of Nine Energy Service, Inc.

Name	Jurisdiction
CDK Perforating, LLC	Texas
Crest Pumping Technologies, LLC	Delaware
Dak-Tana Wireline, LLC	Delaware
Frac Technology AS	Norway
Magnum Oil Tools GP, LLC	Texas
Magnum Oil Tools International, LTD	Texas
MOTI Holdco, LLC	Delaware
Nine Downhole Norway AS	Norway
Nine Downhole Technologies, LLC	Delaware
Nine Energy Canada Inc.	Alberta, Canada
Nine Energy Service, LLC	Delaware
Northern States Completions, Inc.	Delaware
Peak Pressure Control, LLC	Texas
RedZone Coil Tubing, LLC	Texas

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements on Form S-3 (No. 333-233875) and Form S-8 (No. 333-222660) of Nine Energy Service, Inc. of our report dated March 9, 2020 relating to the financial statements, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP
Houston, Texas
March 9, 2020

Certification of Chief Executive Officer
Pursuant to Exchange Act Rule 13a-14(a) or 15d-14(a)

I, Ann Fox, certify that:

1. I have reviewed this annual report on Form 10-K for the year ended December 31, 2019 of Nine Energy Service, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) 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 the 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(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 9, 2020

/s/ Ann G. Fox

Ann G. Fox

President, Chief Executive Officer and Director

(Principal Executive Officer)

Certification of Chief Financial Officer
Pursuant to Exchange Act Rule 13a-14(a) or 15d-14(a)

I, Clinton Roeder, certify that:

1. I have reviewed this annual report on Form 10-K for the year ended December 31, 2019 of Nine Energy Service, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) 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 the 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(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 9, 2020

/s/ Clinton Roeder

Clinton Roeder
Senior Vice President and Chief Financial Officer
(Principal Financial Officer)

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report on Form 10-K of Nine Energy Service, Inc. (the "Company") for the year ended December 31, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Ann G. Fox, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that to the best of 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.

/s/ Ann G. Fox

Ann G. Fox

President, Chief Executive Officer and Director

(Principal Executive Officer)

Date:

March 9, 2020

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report on Form 10-K of Nine Energy Service, Inc. (the “Company”) for the year ended December 31, 2019 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Clinton Roeder, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that to the best of 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.

/s/ Clinton Roeder

Clinton Roeder

Senior Vice President and Chief Financial Officer
(Principal Financial Officer)

Date: March 9, 2020