ION GEOPHYSICAL CORP
Form 10-K
February 11, 2016
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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549
Form 10-K
(Mark One)

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

For the Fiscal Year Ended December 31, 2015
or

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

Commission file number 1-12691
ION Geophysical Corporation
(Exact Name of Registrant as Specified in Its Charter)

Delaware	22-2286646
(State or Other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification No.)

2105 CityWest Blvd
Suite 400
Houston, Texas 77042-2839
(Address of Principal Executive Offices, Including Zip Code)
(281) 933-3339
(Registrant’s Telephone Number, Including Area Code)
Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock, $0.01 par value	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 þ
Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act Yes ¨ No þ
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 þ No ¨
Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes þ No ¨
Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant’s knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. þ
Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting company. See the definitions of “large accelerated filer,” “accelerated filer” and “smaller reporting company” in Rule 12b-2 of the Exchange Act. (Check one):
Large accelerated filer ¨ Accelerated filer þ Non-accelerated filer ¨ Smaller reporting company ¨

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

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As of June 30, 2015 (the last business day of the registrant's second quarter of fiscal 2015), the aggregate market value of the registrant's common stock held by non-affiliates of the registrant was $165.1 million based on the closing sale price per share ($16.05) on such date as reported on the New York Stock Exchange. On February 4, 2016, we completed a one-for-fifteen reverse stock split and our stock began trading on a reverse-split basis on February 5, 2016. The closing sale price has been retroactively adjusted to reflect the one-for-fifteen reverse stock split completed on February 4, 2016.

As of February 5, 2016, the number of shares of common stock, $0.01 par value, outstanding was 10,567,558 shares. The number of shares has been retroactively adjusted to reflect the one-for-fifteen reverse stock split completed on February 5, 2016.

DOCUMENTS INCORPORATED BY REFERENCE

Document	Parts Into Which Incorporated
Portions of the registrant's definitive Proxy Statement for its Annual Meeting of Stockholders scheduled to be held on May 18, 2016, to be filed pursuant to Regulation 14A	Part III

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PART I

Preliminary Note: This Annual Report on Form 10-K contains "forward-looking statements" as that term is defined in the Private Securities Litigation Reform Act of 1995. Forward-looking statements should be read in conjunction with the cautionary statements and other important factors included in this Form 10-K. See Item 1A. "Risk Factors" for a description of important factors which could cause actual results to differ materially from those contained in the forward-looking statements.

In this Form 10-K, "ION Geophysical," "ION," "the company" (or, "the Company"), "we," "our," "ours" and "us" refer to ION Geophysical Corporation and its consolidated subsidiaries, except where the context otherwise requires or as otherwise indicated. Certain trademarks, service marks and registered marks of ION referred to in this Form 10-K are defined in Item 1. "Business — Intellectual Property."

Item 1. Business

ION is a Delaware corporation. Our predecessor entity was incorporated in 1979. We are a global, technology-focused company that provides geoscience technology, services and solutions to the global oil and gas industry. Our offerings are designed to allow oil and gas exploration and production ("E&P") companies to obtain higher resolution images of the Earth's subsurface during E&P operations to reduce their risk in exploration and reservoir development. We acquire, process and interpret seismic data from seismic surveys in regional data programs, which then become part of our multi-client data library. The seismic surveys for our data library business are pre-funded, or underwritten, in part by our customers, and, with the exception of our ocean bottom seismic ("OBS") data acquisition company, OceanGeo B.V. ("OceanGeo"), we contract with third party seismic data acquisition companies to shoot and acquire the seismic data, all of which is intended to minimize our risk exposure. We serve customers in most major energy producing regions of the world from strategically located offices in 27 cities on six continents.

Seismic imaging plays a fundamental role in hydrocarbon exploration and reservoir development by delineating structures, rock types and fluid locations in the subsurface. Our technologies, services and solutions are used by E&P companies to generate high-resolution images of the Earth's subsurface to identify sources of hydrocarbons and pinpoint drilling locations for wells, which can be costly and involve high risk.

We provide our services and products through four business segments – Solutions, Systems, Software and Ocean Bottom Services. Our Ocean Bottom Services segment is comprised of OceanGeo, in which we increased our ownership from 30% to 100% in 2014. In addition, we have a 49% ownership interest in our INOVA Geophysical Equipment Limited joint venture ("INOVA Geophysical," or "INOVA").

For decades we have been engaged in providing innovative seismic data acquisition technology, such as multicomponent imaging with VectorSeis® products, the ability to record seismic data from basins that underlie ice fields in polar regions, and cableless seismic techniques. The advanced technologies we currently offer include our Orca® and Gator® command and control software systems, WiBand® broadband data processing technology, Calypso® OBS acquisition system, Narwhal™ (software system) for ice management, and other technologies, each of which is designed to deliver improvements in both image quality and productivity. In 2015, we completed field testing of our Marlin™ solution for optimizing simultaneous operations during marine seismic data acquisition. We have over 500 patents and pending patent applications in various countries around the world. Approximately 50% of our employees are involved in technical roles and over 26% of our employees have advanced degrees.

Solutions. Our Solutions business provides two distinct service activities that often work together.

Our Ventures group (formerly known as our GeoVentures® group) provides services designed to manage the entire seismic process, from survey planning and design to data acquisition and management, to final subsurface imaging and reservoir characterization. Our Ventures group focuses on the technologically intensive components of the image development process, such as survey planning and design, and data processing and interpretation, outsourcing the logistics components (such as field acquisition) to experienced seismic and other geophysical contractors.

Our Imaging Services group (formerly known as our GX Technology (GXT) group) offers data processing and imaging services designed to help our E&P customers reduce exploration and production risk, evaluate and develop reservoirs, and increase production. This group develops a series of subsurface images by applying its processing technology to data owned or licensed by its customers. We maintain more than 15 petabytes of seismic data digital information storage in 4 global data centers, including two core data centers located in Houston and in the U.K.

Our Solutions business focuses on providing services and products for challenging environments, such as the Arctic frontier; complex and hard-to-image geologies, such as deepwater subsurface salt formations in the Gulf of Mexico and offshore East and West Africa and Brazil; unconventional reservoirs, such as those found in shale, tight gas and oil sands formations; and offshore basin-wide seismic data and imaging programs. Since 2002, our basin exploration seismic data programs have resulted in a substantial data library that covers significant portions of many of the frontier basins in the world, including offshore East and West Africa, India, South America, the Arctic, the deepwater Gulf of Mexico and Australia.

Our E&P Advisors group partners with E&P operators, energy industries and capital institutions to capture and monetize E&P opportunities worldwide. This group provides technical, commercial and strategic advice across the exploration and production value chain, working at basin, prospect and field scales.

Software. Our Software business provides command and control software systems, related software and services for towed marine streamer and ocean bottom seismic operations, as well as survey design. Our Orca software is installed on towed streamer marine vessels worldwide, and our Gator software is a component of many re-deployable and permanent ocean bottom seismic monitoring systems.

In 2013, we introduced our Narwhal for ice management system, and in 2015, we completed field testing our Marlin solution for optimizing simultaneous operations during marine seismic data acquisition. Both of these systems are part of our E&P software solutions for operations management.

Systems. Our Systems business is engaged in the manufacture of (i) re-deployable ocean bottom cable seismic data acquisition systems (for OceanGeo's use in OBS data acquisition); (ii) marine towed streamer positioning and control systems; and (iii) geophone sensors.

Ocean Bottom Services ("OBS"). In 2014, we increased our ownership interest in OceanGeo from 30% to 100%. Through the addition of OceanGeo, ION offers a fully integrated OBS solution designed to maximize seismic image quality, operational efficiency and safety. The integrated OBS solution includes expert survey design, planning and optimization, superior data captured using multicomponent acquisition systems available exclusively to OceanGeo; data acquisition by the experienced team at OceanGeo; and data processing, interpretation and reservoir services, by our Imaging Services experts. For information regarding our acquisition of OceanGeo, see Footnote 14 "Acquisition of OceanGeo" of Footnotes to Consolidated Financial Statements contained elsewhere in this Annual Report on Form 10-K.

INOVA Geophysical. We conduct our land seismic equipment business through INOVA Geophysical, a joint venture with BGP Inc., which is a subsidiary of China National Petroleum Corporation ("CNPC"). BGP is generally regarded as the world's largest land geophysical service contractor. BGP owns a 51% equity interest in INOVA Geophysical, and we own the remaining 49% interest. INOVA manufactures cable-based and cableless seismic data acquisition systems, digital sensors, vibroseis vehicles (i.e., vibrator trucks), and source controllers for detonator and energy source business lines. We wrote our investment in INOVA down to zero as of December 31, 2014. For a discussion of the impairment of our equity method investment in INOVA, see Footnote 15 "Equity Method Investments" of Footnotes to Consolidated Financial Statements contained elsewhere in this Annual Report on Form 10-K.

Seismic Industry Overview

1930s – 1970s. Since the 1930s, oil and gas companies have sought to reduce exploration risk by using seismic data to create an image of the Earth's subsurface. Seismic data is recorded when listening devices placed on the Earth's surface or ocean bottom floor, or carried within the streamer cable of a towed streamer vessel, measure how long it takes for sound vibrations to echo off rock layers underground. For seismic data acquisition onshore, the acoustic energy producing the sound vibrations is generated by the detonation of small explosive charges or by large vibroseis (vibrator) vehicles. In marine acquisition, the energy is provided by a series of air guns that deliver compressed air into the water column.

The acoustic energy propagates through the subsurface as a spherical wave front, or seismic wave. Interfaces between different types of rocks will both reflect and transmit this wave front. Onshore, the reflected signals return to the surface where they are measured by sensitive receivers that are analog coil-spring geophones. Offshore, the reflected signals are recorded by either hydrophones towed in an array behind a streamer acquisition vessel or by multicomponent geophones or MEMS sensors that are placed directly on the ocean floor. Once the recorded seismic

energy is processed using advanced algorithms and workflows, images of the subsurface can be created to depict the structure, lithology (rock type), fracture patterns, and fluid content of subsurface horizons, highlighting the most promising places to drill for oil and natural gas. This processing also aids in engineering decisions, such as drilling and completion methods, as well as decisions affecting overall reservoir production as well as guiding economic decisions relating to drilling risk and reserves in place.

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Typically, an E&P company engages the services of a geophysical acquisition contractor to prepare site locations, coordinate logistics, and acquire seismic data in a selected area. The E&P company generally relies upon third parties, such as ION, to provide the contractor with equipment, navigation and data management software, and field support services necessary for data acquisition. After the data is collected, the same geophysical contractor, a third-party data processing company, our Imaging Services group or the E&P company itself will process the data using proprietary algorithms and workflows to create a series of seismic images. Geoscientists then interpret the data by reviewing the images and integrating the geophysical data with other geological and production information such as well logs or core information.

During the 1960s, digital seismic data acquisition systems (which converted the analog output from the geophones into digital data for recording) and computers for seismic data processing were introduced. Using the new systems and computers, the signals could be recorded on magnetic tape and sent to data processors where they could be adjusted and corrected for known distortions. The final processed data was displayed in a form known as “stacked” data. Computer filing, storage, database management, and algorithms used to process the raw data quickly grew more sophisticated, dramatically increasing the amount of subsurface seismic information.

1980s. Until the early 1980s, the primary commercial seismic imaging technology was two-dimensional (“2-D”) technology. 2-D seismic data is recorded using lines of receivers crossing the surface of the Earth. Once processed, 2-D seismic data allows geoscientists to see only a thin vertical slice of the Earth, and that image may be corrupted by reflections originating out of the place of the receiver line. A geoscientist using 2-D seismic technology must speculate on the characteristics of the Earth between the slices and attempt to visualize the true three-dimensional (“3-D”) structure of the subsurface.

The commercial development of 3-D imaging technology in the early 1980s was an important technological milestone for the seismic industry. Previously, the high cost of 3-D seismic data acquisition techniques and the lack of computing power necessary to process, display, and interpret 3-D data on a commercial basis had slowed its widespread adoption. Today’s 3-D seismic techniques record the reflected energy across a series of closely-spaced seismic lines that collectively provide a more holistic, spatially-sampled depiction of geological horizons and, in some cases, rock and fluid properties, within the Earth.

3-D seismic data and the associated computer-based interpretation platforms are designed to allow geoscientists to generate more accurate subsurface maps than could be constructed on the basis of the more widely spaced 2-D seismic lines. In particular, 3-D seismic data provided more detailed information about and higher-quality images of subsurface structures, including the geometry of bedding layers, salt structures, and fault planes. The improved 3-D seismic images allowed the oil and gas industry to discover new reservoirs, reduce finding and development costs, and lower overall hydrocarbon exploration risk. Driven by faster computers and more sophisticated mathematical equations to process the data, the technology advanced quickly.

1990s. As commodity prices decreased in the late 1990s and the pace of innovation in 3-D seismic imaging technology slowed, E&P companies slowed the commissioning of new seismic surveys. Also, business practices employed by geophysical contractors impacted demand for seismic data. In an effort to sustain higher utilization of existing capital assets, geophysical contractors increasingly began to collect speculative seismic data for their own account in the hopes of selling it later to E&P companies. These generic, speculative, multi-client surveys were not tailored to meet the unique imaging objectives of individual clients and caused an oversupply of seismic data in many regions. Additionally, since contractors incurred most of the costs of this speculative seismic data at the time of acquisition, contractors lowered prices to recover as much of their fixed investment as possible, which drove operating margins down. During the 1990’s, the accuracy of 3-D seismic surveys improved to the point that a survey acquired after significant oil production could be compared to a pre-production survey, and maps of the drainage pattern of the reservoir could be produced. This technique became known as time lapse, or 4-D seismic.

2000s. The conditions from the 1990s continued to prevail until 2004-2005, when commodity prices began increasing and E&P companies increased their capital spending programs, driving higher demand for our services and products. During this time, the use of horizontal drilling and hydraulic fracturing increased, as onshore North American production became economically viable with higher oil prices. These techniques, used to tap unconventional reservoirs, made once “hard to produce” oil and gas accessible and caused an upsurge in North American onshore oil

and gas activity.

The financial crisis that occurred in 2008 and the resulting economic downturn drove hydrocarbon prices down sharply; this had the effect of sharply reducing exploration activities in North America and in many parts of the world. Crude oil prices rebounded in 2013, and into 2014 with oil prices exceeding $100 per barrel, and U.S. oil production surged far beyond what even the most optimistic forecasts predicted. In the fourth quarter of 2014, however, oil prices began to decline significantly, as signs emerged that non-U.S. demand was weakening. The plunge accelerated in late November when OPEC decided to maintain production despite the lower demand and prices. Between September and December 2014, WTI and Brent crude oil prices dropped by approximately half. Between January 1, 2015 and December 31,2015, WTI and Brent crude oil prices dropped by approximately 30%.

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Throughout 2014, and 2015, and continuing into 2016, oil companies began prioritizing shareholder returns and cash flow generation over hydrocarbon resource growth, minimizing discretionary spending and shifting their focus from exploration to production. This shift, which has been magnified by the effect of very low global oil prices in 2015 and 2016, is causing a contraction in E&P spending on seismic for exploration purposes. When spending on seismic for exploration purposes contracts, typically the seismic companies hardest hit are towed streamer contractors, who find themselves with excess vessel capacity. In addition, oil and gas companies tend to shift to reprocessing existing seismic data as a more cost-effective alternative to acquiring new data.

Our Strategy

The key elements of our business strategy are to:

- Leverage our key technologies to provide integrated solutions to oil and gas companies, across the entire E&P lifecycle. More of our customers are seeking fully integrated offerings from seismic companies, from survey planning and design, to leading technology differentiation in acquisition and processing. We have transformed our Company from an equipment provider to an integrated service provider, where leading equipment and software technologies underpin our solution offerings. The growth in our Solutions business over the past decade is a testament to our steadfast execution of this strategy. Whereas our solutions, including our BasinSPAN™ 2-D seismic programs, were focused on the earlier, frontier exploration, phase of the E&P lifecycle, our newest offering, OBS services through OceanGeo, is geared to the later, less volatile, production phase of the E&P lifecycle leveraging our internally developed technology, including Calypso™, our newest OBS data acquisition system.
- Expand and globalize our Solutions business. We seek to expand and grow our Solutions business into new regions, with new customers and new offerings, including proprietary services for E&P companies through our imaging services and Ventures multi-client businesses. Historically known for our 2-D programs, we entered the 3-D multi-client market in 2013 by acquiring and processing our first survey offshore Ireland. For the foreseeable future, we expect the majority of our future investments to be in research and development and computing infrastructure for our data processing business and to support our multi-client projects. We believe this focus better positions our company as a full-service technology company with an increasing proportion of revenues derived from E&P customers.
- Continue investing in advanced software and equipment technology to provide next generation services and products. We intend to continue investing in the development of new technologies for use by E&P companies. In particular, we intend to focus on the development of the next generation of our OBS data imaging technology, our Narwhal ice management system, our Marlin simultaneous operations software, and derivative products, with the goal of obtaining technical and market leadership in what we continue to believe are important and expanding markets. In 2015, our total investment in research and development and engineering was equal to approximately 12% of our total net revenue for the year.
- Collaborate with our customers to provide products and solutions designed to meet their needs. A key element of our business strategy has been to understand the challenges faced by E&P companies in seismic survey planning, seismic data acquisition, processing, and interpretation. We will continue to develop and offer technology and services that enable us to work with E&P companies to solve their unique challenges, especially in the harshest and most extreme environments around the world. We have found that a collaborative relationship with E&P companies, with a goal of better understanding their imaging challenges and then working with them to assure them that the right technologies are properly applied, is the most effective method for meeting their needs. Our goal of being a full solutions provider to solve the most difficult challenges for our customers is an important element of our long-term business strategy, and we are implementing this partnership approach globally through local personnel in our regional organizations who understand the unique challenges in their areas. We formed an E&P Advisors group in 2015 designed to focus specifically on this element of our strategy.

Our Strengths

We believe that we are solidly positioned to successfully execute the key elements of our business strategy based on the following competitive strengths:

- We are leveraging our key technologies to provide integrated solutions to oil and gas companies. More of our customers are seeking fully integrated offerings from seismic companies, from survey planning and design, to leading

technology differentiation in acquisition and processing. ION has become an integrated service provider for both towed streamer and ocean bottom seismic services, through service offerings by our Solutions segment.

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- We are a broad-based seismic solutions provider, with offerings spanning the entire geophysical workflow. We are a technology-focused full-value-chain service provider, with offerings that span the entire seismic workflow, from survey planning and data acquisition to processing and interpretation. Our offerings include seismic data acquisition hardware, data acquisition services, command and control software, value-added services associated with seismic survey design, seismic data processing and interpretation, and seismic data libraries.
- Our "asset light" strategy enables us to avoid significant fixed costs and to remain financially flexible. We do not own a fleet of marine vessels and, with the exception of OceanGeo, we do not provide our own seismic crews to acquire seismic data. We outsource a majority of our seismic data acquisition activity to third parties that operate their own fleets of seismic acquisition vessels and equipment. Doing so enables us to avoid the fixed costs associated with these assets and personnel and to manage our business in a manner designed to afford us the flexibility to quickly decrease our costs or capital investments in the event of a downturn, as we have experienced in 2014 and 2015. We actively manage the costs of developing our multi-client data library business by requiring our customers to partially pre-fund, or underwrite, the investment for any new project. Our target goal is to have a vast majority of the total cost of each new project's data acquisition to be underwritten by our customers. We believe this conservative approach to data library investment is the most prudent way to reduce the impact of any sudden reduction in the demand for seismic data giving us the flexibility to aggressively reduce cash outflows as we have successfully implemented in the current industry downturn.
- Our global footprint and ability to work in harsh conditions allow us to offset regional downturns. Our focus on conducting business around the world, even in the harshest and most extreme environments, has been and will continue to be a key component of our strategy. This global focus has been helpful in minimizing the impact of any one regional slowdown for short or extended periods of time. We believe that our customers prefer to work with companies that are capable of delivering high quality, safe, and environmentally sensitive service in those environments. For example, our operational expertise and equipment and software technologies enable us to operate in the harsh Arctic environment and to acquire seismic data in areas for which no modern seismic data previously existed. This expertise and these technologies permit us to extend the time window for data acquisition, facilitate our customers' drilling decisions, reducing exploration and production risk.
- We have a diversified and blue chip customer base. We provide services and products to a diverse, global customer base that includes many of the largest oil and gas and geophysical companies in the world, including national oil companies (NOCs) and international oil companies (IOCs). Over the past decade, we have made significant progress in expanding our customer list and revenue sources. Whereas almost all of our revenues in 2003 were derived principally from seismic contracting companies, in 2015 E&P companies accounted for approximately 70% of our total revenues. Even though we provide services and products to some of the largest companies in the world, no single customer accounted for more than 10% of our total revenue in 2013, 2014 or 2015. We focus our sales and marketing efforts on high-quality, historically creditworthy customers.

Services and Products

Solutions Segment

Our Solutions segment includes the following:

Ventures — Our Ventures group provides complete seismic data services, from survey planning and design through data acquisition to final subsurface imaging and reservoir characterization. We work backwards through the seismic workflow, with the final image in mind, to select the optimal survey design, acquisition technology, and processing techniques.

We offer our services to customers on both a proprietary and multi-client (non-exclusive) basis. In both cases, the customers generally pre-fund a majority of the data acquisition costs. For proprietary services, the customer also pays for the imaging and processing but has exclusive ownership of the data after it has been processed. For multi-client surveys, we may assume some of the processing costs, but we retain ownership of the data and receive ongoing revenue from subsequent data license sales.

Since 2002, we have acquired and processed a growing multi-client data library consisting of non-exclusive marine and ocean bottom data from around the world. The majority of the data licensed by ION consists of ultra-deep 2-D seismic data that E&P companies use to evaluate petroleum reservoirs at the basin level, including insights into the

character of source rocks and sediments, migration pathways, and reservoir trapping mechanisms. In many cases, we extend beyond seismic data to include magnetic, gravity, well log, and electromagnetic information, to provide a more comprehensive picture of the subsurface. Known as “BasinSPAN” programs, these geophysical surveys cover most major offshore basins worldwide and we’re continuing to build on them. In addition to our 2-D multi-client programs, in 2013 we acquired our first 3-D marine proprietary program and signed a strategic agreement with Polarcus Limited, a marine geophysical company, to jointly plan and execute 3-D marine multi-client surveys worldwide, and in 2013, we jointly acquired and processed our first 3-D survey offshore Ireland.

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For land applications, we also have a library of 3-D onshore reservoir imaging and characterization programs that provide E&P companies with the ability to better understand unconventional reservoirs to maximize production. Known as "ResSCAN™" programs, these 3-D multicomponent seismic data programs were designed, acquired and depth-imaged using advanced geophysical technology and proprietary processing techniques, resulting in high-definition images of the subsurface.

In 2014, we wrote down the value of our multi-client data library, primarily associated with Arctic and onshore North American programs by $100.1 million due to current market conditions. The decline in crude oil prices to 12-year lows negatively impacted the economic outlook of our E&P customers. In response to the decline in crude oil prices, E&P companies turned their focus to spending reductions, with exploration spending receiving the largest reductions and seismic spending being one of the most discretionary parts of their exploration budgets. These reductions in exploration spending have had an impact on our results of operations in 2014 and 2015. Sales of Arctic programs have been specifically impacted by events in Russia and the U.S. government canceling future license rounds in Alaska. The decline in crude oil prices as well as U.S. and European Union sanctions against Russia related to Russia's actions in Ukraine, both contributed to the devaluation of the Russian ruble which placed significant pressure on our Russian-based customers and negatively impacted the appeal of seismic data located in Russia to potential non-Russian buyers. In 2015, further declines in oil prices caused in part by the oversupply of crude oil, including the Iran nuclear deal, which allows Iran to export more oil, has caused concerns about further increasing supply. These events have continued to impact North America. E&P customer spending in the natural gas shale plays has been limited due to associated gas being produced from unconventional oil wells in North America increasing natural gas supplies and putting downward pressure on natural gas prices. The number of rigs working in North America has decreased by approximately 62% since late November 2014.

Seismic Data Processing Services — Our Imaging Services group is a strong market participant in advanced marine, and land seismic data processing, imaging, and reservoir services. In addition to applying processing and imaging technologies to data owned or licensed by its customers, we also provide our customers with seismic data acquisition support services, such as data pre-conditioning for imaging and quality control of seismic data acquisition.

We utilize a globally distributed network of Linux-cluster processing centers in combination with our major hubs in Houston and London to process seismic data using advanced, proprietary algorithms and workflows.

Our Imaging team has pioneered several differentiated processing and imaging solutions for both offshore and onshore environments including: Reverse Time Migration, Surface Related Multiple Elimination, and WiBand broadband deghosting. In 2013, we commercially released our new Full Waveform Inversion and non-parametric picking tomography techniques to improve subsurface image resolution in areas with complex geologies. The advantages of these techniques are that they allow for the resolution of complex, small-scale velocity variations. In 2014, we introduced PrecisION™, an innovative compressed seismic inversion technique that is designed to build Earth reconstructions with improved accuracy and aid geoscientists in better quantifying exploration and development risk and uncertainty. In 2015, the focus of our Imaging team has been on the application of our differentiated technology, expertise and access to BasinSPAN data to work with key customers to deliver seismic velocity models and images consistent with geology. In 2015, we released our next generation data processing system, Perseus, which removes our dependence on third party software and has yielded improvements of over four times on our key processes. In a low oil price environment ION Imaging has increasingly adapted to meet the growing need to deliver high value information by reprocessing old data with the latest imaging technology. In addition to processing our own multi-client BasinSPAN 2-D programs and regionally calibrated 3-D programs, our proprietary processing and imaging business has been focused on key customers with complex 3-D imaging challenges predominantly in the marine environment - both towed streamer and seabed. Our focus on close collaboration with key customers has been rewarded by repeat business such as the recent award of a contract extension from PEMEX.

Quantitative Interpretation — The Imaging Services group also offers solutions "downstream" of seismic data processing workflows that enable E&P companies to develop their reservoirs and increase production. This is accomplished by integrating geophysical, geological, petrophysical and rock physics information to identify lithology, fluid or fracture within hydrocarbon reservoirs. Once understood, this information may be used for better well placement and more effective well completions.

At December 31, 2015, our Solutions segment backlog, which consists of commitments for (i) data processing work and (ii) both multi-client new venture and proprietary projects that have been underwritten, has declined to $19.2 million compared with $46.7 million at December 31, 2014. Our Solutions segment's fiscal-year-end backlog includes signed contracts that we can usually fulfill within approximately six months. Investments in our multi-client data library are dependent upon the timing of our new ventures projects and the availability of underwriting by our customers. Our asset light strategy enables us to scale our business to avoid significant fixed costs and to remain financially flexible as we manage the timing and levels of our capital expenditures.

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E&P Advisory Services — Our E&P Advisors group partners with E&P operators, energy industries and capital institutions to capture and monetize E&P opportunities worldwide. This group provides technical, commercial and strategic advice across the exploration and production value chain, working at basin, prospect and field scales. E&P Advisors couple ION's proven technical capabilities with the industry's best commercial and strategic minds to deliver fit-for-purpose solutions, employing a variety of commercial models specific to our clients' needs.

Software Segment

Through this segment, we supply command and control software systems and related services for towed marine streamer and OBS operations. Software developed by our Software group is installed on towed streamer marine vessels worldwide and is a component of many re-deployable and permanent ocean bottom monitoring systems. An advantage of our underlying software platform is that it provides common components from which to build other applications. This enables the acceleration of development and commercialization of new products as market opportunities are identified. Our Narwhal for ice management system, which we released in 2013, is such an example, as is Marlin, our new software solution for optimizing simultaneous operations during marine seismic data acquisition.

Products and services for our Software segment include the following:

Towed Streamer Navigation System — Our command and control software for towed streamer acquisition, Orca, integrates acquisition, planning, positioning, source and quality control systems into a seamless operation.

Ocean Bottom Navigation System — Gator II is our integrated navigation and data management system for multi-vessel OBS, electromagnetic and transition zone operations.

Survey Planning and Optimization — We offer consulting services for planning and supervising complex surveys, including for 4-D (time lapse) and Wide Azimuth Towed Streamer survey operations. Our acquisition expertise and in-field software platforms are designed to allow clients, including both oil companies and seismic data acquisition contractors, to optimize these complex surveys, improving efficiencies, data quality and reducing costs. Our Orca and Gator systems are designed to integrate with our post-survey tools for processing, analysis and data quality control, including the use of our Reflex® software for seismic coverage and attribute analysis. Our proprietary technology known as Optimiser™ is designed to enable improved, safer acquisition through analysis and prediction of sea currents and integration of the information into the acquisition plan.

Operations Management — In 2013, we introduced the first fully integrated ice management system designed to reduce risk and improve efficiency in seismic data acquisition and drilling operations in or near ice, such as in the Arctic. The patented Narwhal system enables operators to gather, monitor and analyze data from various sources, including satellite imagery, ice charts, radar, manual observations, and wind and ocean currents, to forecast and predict ice movements in these harsh environments. With this ability to track, forecast and monitor potential ice threats, operators can make informed, proactive decisions to ensure the safety of individuals, assets and the environment, while minimizing operational downtime. More importantly, we applied this technology to develop and commercialize our Marlin solution for managing simultaneous operations during marine seismic data acquisition.

Systems Segment

Our Systems segment products include the following:

Marine Acquisition Systems — We believe that the market for ocean bottom seismic imaging is growing. E&P companies have shown increased interest in ocean bottom seismic activities, consistent with their desire for higher-quality seismic imaging for complex geological formations and more detailed reservoir characteristics. Since introducing our first ocean bottom acquisition system, VSO, in 2004, we have continued to develop advanced ocean bottom systems, which we are putting to use through OceanGeo.

We also manufacture marine acquisition systems, consisting of towed marine streamers and shipboard electronics that collect seismic data in water depths of greater than 30 meters. Marine streamers, which contain hydrophones, electronic modules and cabling, may measure up to 12,000 meters in length and are towed (up to 20 at a time) behind a seismic acquisition vessel. The hydrophones detect acoustical energy transmitted through water from the Earth's subsurface structures. Our DigiSTREAMER™ system uses solid streamer and integrated continuous acquisition technology for towed streamer operations.

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Marine Positioning Systems — Our manufactured marine streamer positioning system includes streamer cable depth control devices, lateral control devices, compasses, acoustic positioning systems and other auxiliary sensors. This equipment is designed to control the vertical and horizontal positioning of the streamer cables and provides acoustic, compass and depth measurements to allow processors to tie navigation and location data to geophysical data to determine the location of potential hydrocarbon reserves. DigiBIRD II® are designed to maintain streamers at pre-defined target depths more safely, efficiently, and cost effectively than ever before by eliminating workboat operations for battery changes on the majority of seismic surveys. DigiFIN® is an advanced lateral streamer control system that we commercialized in 2008. DigiFIN is designed to maintain tighter, more uniform marine streamer separation along the entire length of the streamer cable, which allows for better sampling of seismic data and improved subsurface images. We believe that DigiFIN also enables faster line changes and minimizes the requirements for in-fill seismic work.

Geophones — Geophones are land sensor devices that measure acoustic energy reflected from rock layers in the Earth's subsurface using a mechanical, coil-spring element. We manufacture and market a full suite of geophones and geophone test equipment that operate in most environments, including land surface, transition zone and downhole. Our geophones are used in other industries as well.

Ocean Bottom Services Segment

ION offers a fully-integrated OBS solution that includes expert survey design, planning and optimization, to maximize seismic image quality, safe, efficient data acquisition by the experienced team at OceanGeo; superior imaging via OceanGeo's exclusive use of our VSO systems; and data processing, interpretation and reservoir services through ION.

INOVA Geophysical Products

INOVA manufactures cable-based (G3i® and ARIES®) and cableless (Hawk®) seismic data acquisition systems, digital sensors (AccuSeis™ and VectorSeis), vibroseis vehicles (i.e., vibrator trucks, known as AHV-IV™ and UNIVIB®), and source controllers for detonator and energy source (Vib Pro™ and Shot Pro™ II) business lines. We wrote our investment in INOVA down to zero as of December 31, 2014. For a discussion of the impairment of our equity method investment in INOVA, see Footnote 15 "Equity Method Investments" of Footnotes to Consolidated Financial Statements contained elsewhere in this Annual Report on Form 10-K.

Product Research and Development

Our ability to compete effectively in the seismic imaging market depends principally upon continued technological innovation in our underlying technologies. As such, the overall focus of our research and development efforts has remained on improving both the quality of the subsurface images we generate and the economics of the seismic data acquisition that lies behind the imaging. In particular, we have concentrated on enhancing the nature and quality of the information that can be extracted from the subsurface images.

During 2015, our research and development efforts were aimed at developing strategic key technologies across all business lines. A large part of this effort was focused on the final phases of development of our Calypso re-deployable ocean bottom acquisition system, which we plan to put into service through our Ocean Bottom Services segment. Within the seismic data processing business, we continued to invest in productivity enhancements and in technologies aimed at handling increasingly complex data acquisition environments and at areas with difficult-to-image subsurface geology. We invested in Marlin, a software system for managing simultaneous marine seismic operations. We also continued research and development into maximizing the value of full-wave seismic data, particularly the extraction of new and more accurate subsurface information with a special emphasis on marine ocean bottom imaging.

As many of these new services and products are under development and, as the development cycles from initial conception through to commercial introduction can extend over a number of years, their commercial feasibility or degree of commercial acceptance may not yet be established. No assurance can be given concerning the successful development of any new service or product, any enhancements to them, the specific timing of their release or their level of acceptance in the marketplace.

Markets and Customers

Our primary customers are E&P companies to whom we market and offer services, primarily imaging-related processing services from our Imaging Services group, multi-client seismic data programs from our Ventures group, and OBS data acquisition services through OceanGeo, as well as consulting services from our E&P Advisors and

Software group. Secondarily, seismic contractors purchase our towed streamer data acquisition systems and related equipment and software to collect data in accordance with their E&P company customers' specifications or for their own seismic data libraries.

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A significant part of our marketing effort is focused on areas outside of the United States. Foreign sales are subject to special risks inherent in doing business outside of the United States, including the risk of political instability, armed conflict, civil disturbances, currency fluctuations, embargo and governmental activities, customer credit risks and risk of non-compliance with U.S. and foreign laws, including tariff regulations and import/export restrictions.

We sell our services and products through a direct sales force consisting of employees and international third-party sales representatives responsible for key geographic areas. The majority of our foreign sales are denominated in U.S. dollars. During 2015, 2014 and 2013, sales to destinations outside of North America accounted for approximately 66%, 74% and 73% of our consolidated net revenues, respectively. Further, systems and equipment sold to domestic customers are frequently deployed internationally and, from time to time, certain foreign sales require export licenses.

Traditionally, our business has been seasonal, with strongest demand typically in the fourth quarter of our fiscal year.

For information concerning the geographic breakdown of our net revenues, see Footnote 3 “Segment and Geographic Information” of Footnotes to Consolidated Financial Statements contained elsewhere in this Annual Report on Form 10-K for additional information.

Competition

Our Imaging Services group within our Solutions segment competes with more than a dozen companies that provide data processing services to E&P companies. See “ – Services and Products – Solutions Segment.” While the barriers to enter this market are relatively low, we believe the barriers to compete at the higher end of the market–the advanced pre-stack depth migration market where our efforts are focused–are significantly higher. At the higher end of this market, CGG (an integrated geophysical company) and Schlumberger (a large integrated oilfield services company), are our Solutions segment’s two primary competitors for advanced imaging services. Both of these companies are significantly larger than ION in terms of revenue, processing locations, and sales, marketing and financial resources. In addition, both CGG and Schlumberger possess an advantage in the data processing arena, as part of more vertically integrated seismic contractor companies; for example, when these companies acquire large 3-D multi-client surveys, the internal data processing organization will usually be awarded the data processing without any requirement to compete with external vendors. CGG and Schlumberger, along with other competitors, TGS-NOPEC Geophysical Company ASA and Spectrum ASA, also develop and sell data libraries that compete with our BasinSPAN data libraries. BGP also competes in this space by primarily partnering with other competitors to develop and sell data libraries.

In the OBS market, OceanGeo competes with a number of companies, including WesternGeco, Fairfield Nodal, Seabed GeoSolutions (a joint venture of Fugro and CGG), Magseis and BGP. The OBS market primarily addresses the production end of the E&P business. This market is primarily vertically integrated with a variety of proprietary technologies, comprising both cable and nodal systems. Most companies operate one to three crews, and there have been three new entrants in the last few years.

The market for seismic services and products is highly competitive and characterized by frequent changes in technology. Our principal competitor for marine seismic equipment is Sercel (a manufacturing subsidiary of CGG). Sercel has the advantage of being able to sell its products and services to its parent company that operates both land and marine crews, providing it with a significant and stable internal market and a greater ability to test new technology in the field. The recent downturn in the industry has disrupted traditional buying patterns. We have seen a generally increasing trend of companies such as Petroleum GeoServices ASA (“PGS”) developing their own instrumentation to create a competitive advantage through products such as Geostreamer. We also compete with other seismic equipment companies on a product-by-product basis. Our ability to compete effectively in the manufacture and sale of seismic instruments and data acquisition systems depends principally upon continued technological innovation, as well as pricing, system reliability, reputation for quality and ability to deliver on schedule.

Some seismic contractors design, engineer and manufacture seismic acquisition technology in-house (or through a network of third-party vendors) to differentiate themselves. Although this technology competes directly with our marine streamer, and ocean bottom equipment, it is not usually made available to other seismic acquisition contractors. However, the risk exists that other seismic contractors may decide to develop their own seismic technology, which would put additional pressure on the demand for our acquisition equipment.

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In addition, we expect continued reductions in the market for spare parts and service of existing equipment as a result of the fleet reductions currently occurring in the marine seismic market. By 2017, we expect the number of 2-D and 3-D marine streamer vessels, including those in operation, under construction, or announced additions to capacity, to decrease by six, to approximately 88 vessels total. This 2017 projection has decreased by 30 vessels from the projection one year ago. In addition, there has been an increase in recent years of consolidation within the sector, with the major vessel operators - CGG, WesternGeco and PGS - all acquiring new market entrants in the last several years. In 2013, CGG acquired the geoscience division of Fugro, an international energy infrastructure company. This acquisition has resulted in 50% of the high-end 3-D seismic capacity being concentrated among the largest three companies - CGG, WesternGeco and PGS. Those three companies are vertically integrated with technology that uniquely differentiates them from the rest of the players. This consolidation reduces the number of potential customers and vessel outfitting opportunities for us. During the downturn in the price of crude oil and the resulting reduction in capital expenditures by E&P companies, we anticipate that older, smaller and less efficient vessels will drop out of the fleet to be replaced by newer vessels.

In the land seismic equipment market, where INOVA competes, the principal competitors are Sercel and Geospace Technologies. INOVA is a joint venture with BGP as a majority stake owner. BGP purchases land seismic equipment from both INOVA and its competitors.

Intellectual Property

We rely on a combination of patents, copyrights, trademark, trade secrets, confidentiality procedures and contractual provisions to protect our proprietary technologies. We have more than 500 patents and pending patent applications, including filings in international jurisdictions with respect to the same kinds of technologies. Although our portfolio of patents is considered important to our operations, and particular patents may be material to specific business lines, no one patent is considered essential to our consolidated business operations.

Our patents, copyrights and trademarks offer us only limited protection. Our competitors may attempt to copy aspects of our products despite our efforts to protect our proprietary rights, or may design around the proprietary features of our products. Policing unauthorized use of our proprietary rights is difficult, and we may be unable to determine the extent to which such use occurs. Our difficulties are compounded in certain foreign countries where the laws do not offer as much protection for proprietary rights as the laws of the United States. From time to time, third parties inquire and claim that we have infringed upon their intellectual property rights and we make similar inquiries and claims to third parties. Material intellectual property litigation is discussed in detail in Item 3. “Legal Proceedings.”

The information contained in this Annual Report on Form 10-K contains references to trademarks, service marks and registered marks of ION and our subsidiaries, as indicated. Except where stated otherwise or unless the context otherwise requires, the terms “GeoVentures,” “VectorSeis,” “ARIES II,” “DigiFIN,” “DigiCOURSE,” “Hawk,” “Orca,” “Refle
“Calypso,” “WiBand,” and “UNIVIB” refer to the GEOVENTURES®, VECTORSEIS®, ARIES® II, DIGIFIN®, DIGICOURSE®, ORCA®, REFLEX®, Calypso®, WiBand®, and UNIVIB® registered marks owned by ION or INOVA Geophysical, and the terms “BasinSPAN,” “DigiSTREAMER,” “Gator,” “AHV-IV,” “Vib Pro,” “Shot Pro,” “Optimis
“ResSCAN,” “Narwhal,” “AccuSeis,” “PrecisION” and “Marlin” refer to the BasinSPAN™, DigiSTREAMER™, GATOR™,
Vib Pro™, Shot Pro™, Optimiser™, ResSCAN™, Narwhal™, AccuSeis™, PrecisION™ and Marlin™ trademarks and servic
owned by ION or INOVA Geophysical.

Regulatory Matters

Our operations are subject to various international conventions, laws and regulations in the countries in which we operate, including laws and regulations relating to the importation of and operation of seismic equipment, currency conversions and repatriation, oil and gas exploration and development, taxation of offshore earnings and earnings of expatriate personnel, environmental protection, the use of local employees and suppliers by foreign contractors and duties on the importation and exportation of equipment. Our operations are subject to government policies and product certification requirements worldwide. Governments in some foreign countries have become increasingly active in regulating the companies holding concessions, the exploration for oil and gas and other aspects of the oil and gas industries in their countries. In some areas of the world, this governmental activity has adversely affected the amount of exploration and development work done by major oil and gas companies and may continue to do so. Operations in less developed countries can be subject to legal systems that are not as mature or predictable as those in more

developed countries, which can lead to greater uncertainty in legal matters and proceedings.

Changes in these conventions, regulations, policies or requirements could affect the demand for our services and products or result in the need to modify them, which may involve substantial costs or delays in sales and could have an adverse effect on our future operating results. Our export activities are subject to extensive and evolving trade regulations. Certain countries are subject to trade restrictions, embargoes and sanctions imposed by the U.S. government. These restrictions and sanctions prohibit or limit us from participating in certain business activities in those countries.

Our operations are also subject to numerous local, state and federal laws and regulations in the United States and in foreign jurisdictions concerning the containment and disposal of hazardous materials, the remediation of contaminated properties and the protection of the environment. While the industry has experienced an increase in general environmental regulation worldwide and laws and regulations protecting the environment have generally become more stringent, we do not believe compliance with these regulations has resulted in a material adverse effect on our business or results of operations, and we do not currently foresee the need for significant expenditures in order to be able to remain compliant in all material respects with current environmental protection laws. Regulations in this area are subject to change, and there can be no assurance that future laws or regulations will not have a material adverse effect on us.

Our customers' operations are also significantly impacted in other respects by laws and regulations concerning the protection of the environment and endangered species. For instance, many of our marine contractors have been affected by regulations protecting marine mammals in the Gulf of Mexico. To the extent that our customers' operations are disrupted by future laws and regulations, our business and results of operations may be materially adversely affected.

Employees

As of December 31, 2015, we had 560 regular, full-time employees, 362 of whom were located in the U.S. From time to time and on an as-needed basis, we supplement our regular workforce with individuals that we hire temporarily or retain as independent contractors in order to meet certain internal manufacturing or other business needs. Our U.S. employees are not represented by any collective bargaining agreement, and we have never experienced a labor-related work stoppage. We believe that our employee relations are satisfactory.

Financial Information by Segment and Geographic Area

For a discussion of financial information by business segment and geographic area, see Footnote 3 "Segment and Geographic Information" of Footnotes to Consolidated Financial Statements.

Available Information

Our executive headquarters are located at 2105 CityWest Boulevard, Suite 400, Houston, Texas 77042-2839. Our international sales headquarters are located at LOB 16, office 504, Jebel Ali Free Zone, P.O. Box 18627, Dubai, United Arab Emirates. Our telephone number is (281) 933-3339. Our home page on the internet is www.iongeo.com. We make our website content available for information purposes only. Unless specifically incorporated by reference in this Annual Report on Form 10-K, information that you may find on our website is not part of this report.

In portions of this Annual Report on Form 10-K, we incorporate by reference information from parts of other documents filed with the Securities and Exchange Commission ("SEC"). The SEC allows us to disclose important information by referring to it in this manner, and you should review this information. We make our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, annual reports to stockholders, and proxy statements for our stockholders' meetings, as well as any amendments, available free of charge through our website as soon as reasonably practicable after we electronically file those materials with, or furnish them to, the SEC.

You can learn more about us by reviewing our SEC filings on our website. Our SEC reports can be accessed through the Investor Relations section on our website. The SEC also maintains a website at www.sec.gov that contains reports, proxy statements, and other information regarding SEC registrants, including our company.

Item 1A. Risk Factors

This report contains or incorporates by reference statements concerning our future results and performance and other matters that are "forward-looking" statements within the meaning of Section 27A of the Securities Act of 1933, as amended ("Securities Act"), and Section 21E of the Securities Exchange Act of 1934, as amended ("Exchange Act"). These statements involve known and unknown risks, uncertainties and other factors that may cause our or our industry's results, levels of activity, performance, or achievements to be materially different from any future results, levels of activity, performance, or achievements expressed or implied by such forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as "may," "will," "would," "should," "intend," "expec "plan," "anticipate," "believe," "estimate," "predict," "potential," or "continue" or the negative of such terms or other compara terminology. Examples of other forward-looking statements contained or incorporated by reference in this report include statements regarding:

- the expected outcome of the WesternGeco litigation and future potential adverse effects on our liquidity in the event that we must collateralize our appeal bond for the full amount of the bond or are unsuccessful in our appeal of the judgment;
- future levels of capital expenditures of our customers for seismic activities;
- future oil and gas commodity prices;

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- the effects of current and future worldwide economic conditions (particularly in developing countries) and demand for oil and natural gas and seismic equipment and services;
- future cash needs and future availability to fund our operations and pay our obligations;
- the effects of current and future unrest in the Middle East, North Africa and other regions;
- the timing of anticipated revenues and the recognition of those revenues for financial accounting purposes;
- the effects of ongoing and future industry consolidation, including, in particular, the effects of consolidation and vertical integration in the towed marine seismic streamers market;
- the timing of future revenue realization of anticipated orders for multi-client survey projects and data processing work in our Solutions segment;
- future levels of our capital expenditures;
- future government regulations, pertaining to the oil and gas industry;
- expected net revenues, income from operations and net income;
- expected gross margins for our services and products;
- future benefits to be derived from our OceanGeo subsidiary;
- future seismic industry fundamentals, including future demand for seismic services and equipment;
- future benefits to our customers to be derived from new services and products;
- future benefits to be derived from our investments in technologies, joint ventures and acquired companies;
- future growth rates for our services and products;
- the degree and rate of future market acceptance of our new services and products;
- expectations regarding E&P companies and seismic contractor end-users purchasing our more technologically-advanced services and products;
- anticipated timing and success of commercialization and capabilities of services and products under development and start-up costs associated with their development;
- future opportunities for new products and projected research and development expenses;
- expected continued compliance with our debt financial covenants;
- expectations regarding realization of deferred tax assets; and
- anticipated results with respect to certain estimates we make for financial accounting purposes.

These forward-looking statements reflect our best judgment about future events and trends based on the information currently available to us. Our results of operations can be affected by inaccurate assumptions we make or by risks and uncertainties known or unknown to us. Therefore, we cannot guarantee the accuracy of the forward-looking statements. Actual events and results of operations may vary materially from our current expectations and assumptions. While we cannot identify all of the factors that may cause actual results to vary from our expectations, we believe the following factors should be considered carefully:

An unfavorable outcome in our pending litigation matter with WesternGeco could have a materially adverse effect on our financial results and liquidity.

In June 2009, WesternGeco L.L.C. (“WesternGeco”) filed a lawsuit, styled WesternGeco L.L.C. v. ION Geophysical Corporation, against us in the United States District Court for the Southern District of Texas, Houston Division (for additional information, see Item 3. “Legal Proceedings” below). In the lawsuit, WesternGeco alleged that we had infringed several method and apparatus claims contained in four of its United States patents regarding marine seismic streamer steering devices.

The trial began in July 2012. A verdict was returned by the jury in August 2012, finding that we infringed the claims contained in the four patents by supplying our DigiFIN lateral streamer control units and the related software from the United States and awarded WesternGeco the sum of $105.9 million in damages, consisting of $12.5 million in reasonable royalty and $93.4 million in lost profits.

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In June 2013, the presiding judge entered a Memorandum and Order, denying our post-verdict motions that challenged the jury's infringement findings and the damages amount. In the Memorandum and Order, the judge also stated that WesternGeco is entitled to be awarded supplemental damages for the additional DigiFIN units that were supplied from the United States before and after trial that were not included in the jury verdict due to the timing of the trial. In October 2013, the judge entered another Memorandum and Order, ruling on the number of DigiFIN units that are subject to supplemental damages and also ruling that the supplemental damages applicable to the additional units should be calculated by adding together the jury's previous reasonable royalty and lost profits damages awards per unit, resulting in supplemental damages of $73.1 million.

In April 2014, the judge entered another Order, ruling that lost profits should not have been included in the calculation of supplemental damages in the October 2013 Memorandum and Order (the "Order") and reducing the supplemental damages award in the case from $73.1 million to $9.4 million. In the Order, the judge also further reduced the damages award in the case by $3.0 million to reflect a settlement and license that WesternGeco entered into with a customer of ours that had purchased and used DigiFIN units that were also included in the damage amounts awarded against us.

In May 2014, the judge signed and entered a Final Judgment against us in the amount of $123.8 million. The Final Judgment also included an injunction that enjoins us, our agents and anyone acting in concert with us, from supplying in or from the United States the DigiFIN product or any parts unique to the DigiFIN product, or any instrumentality no more than colorably different from any of these products or parts, for combination outside of the United States. We have conducted our business in compliance with the district court's orders in the case, and we have reorganized our operations such that we no longer supply the DigiFIN product or any parts unique to the DigiFIN product in or from the United States.

We and WesternGeco each appealed the Final Judgment to the United States Court of Appeals for the Federal Circuit in Washington, D.C. On July 2, 2015, the Court of Appeals reversed in part the Final Judgment, holding the district court erred by including lost profits in the Final Judgment. Lost profits were $93.4 million and prejudgment interest on the lost profits was approximately $10.9 million of the $123.8 million Final Judgment award. Pre-judgment interest on the lost profits portion will be treated in the same way as the lost profits. Post-judgment interest will likewise be treated in the same fashion. On July 29, 2015, WesternGeco filed a petition for rehearing en banc before the Court of Appeals. On October 30, 2015, the Court of Appeals denied WesternGeco's petition for rehearing en banc. WesternGeco has up to 90 days to determine whether or not it will file a writ of certiorari requesting that the U.S. Supreme Court review the Court of Appeals' decision. On January 14, 2016, WesternGeco filed a motion to extend until February 26, 2016 the period of time it has to file a writ of certiorari requesting that the U.S. Supreme Court review the Court of Appeals' decision. WesternGeco has also filed a motion requesting that the district court enforce the approximately $22.0 million in royalty damages without regard to whether or not WesternGeco files a writ of certiorari with the U.S. Supreme Court. We have opposed the motion and it has not yet been scheduled for a hearing.

As previously disclosed, we had previously taken a loss contingency accrual of $123.8 million. As a result of the reversal by the Court of Appeals, as of June 30, 2015, we reduced our loss contingency accrual to its current amount of $22.0 million. Our assessment of our potential loss contingency may change in the future due to developments in the case and other events, such as changes in applicable law, and such reassessment could lead to the determination that no loss contingency is probable or that a greater or lesser loss contingency is probable. Any such reassessment could have a material effect on our financial condition or results of operations.

In order to stay the judgment during the appeal, we arranged with sureties to post an appeal bond with the trial court on our behalf in the amount of $120.0 million on May 9, 2014. The terms of the appeal bond arrangements provide the sureties the contractual right for as long as the bond is outstanding to require us to post cash collateral for up to the full amount of the bond. If the sureties exercise their right to require collateral while the appeal bond is outstanding, we would intend to utilize a combination of cash on hand and undrawn balances available under our Credit Facility (as defined below). If we are required to collateralize the full amount of the bond, we might also seek additional debt and/or equity financing. The collateralization of the full amount of the bond could have a material adverse effect on our liquidity. Any requirement that we collateralize the appeal bond will reduce our liquidity and may reduce the borrowings otherwise available under our Credit Facility. No assurances can be made whether our efforts to raise

additional cash would be successful and, if so, on what terms and conditions, and at what cost we might be able to secure any such financing. On November 12, 2015, we have received a request for $11.0 million in collateral, and negotiations with the sureties regarding the request are ongoing. For additional discussion about our liquidity related to posting an appeal bond, see Item 7. “Management’s Discussion and Analysis of Financial Condition and Results of Operations — Meeting our Liquidity Requirements — Loss Contingency – WesternGeco Lawsuit” in Part II of this Form 10-K.

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We may not ultimately prevail in the appeals process and we could be required to pay damages up to the amount of the loss contingency accrual plus any additional amount ordered by the court. Our assessment of our potential loss contingency may change in the future due to developments at the appellate court and other events, such as changes in applicable law, and such reassessment could lead to the determination that no loss contingency is probable or that a greater loss contingency is probable, which could have a material effect on our business, financial condition and results of operations. Amounts of estimated loss contingency accruals as disclosed in this Annual Report on Form 10-K or elsewhere are based on currently available information and involve elements of judgment and significant uncertainties. Actual losses may exceed or be considerably less than these accrual amounts.

Our business depends on the level of exploration and production activities by the oil and natural gas industry. If crude oil and natural gas prices or the level of capital expenditures by E&P companies were to further decline, demand for our services and products would decline and our results of operations would be materially adversely affected.

Demand for our services and products depends upon the level of spending by E&P companies and seismic contractors for exploration and production activities, and those activities depend in large part on oil and gas prices. Spending by our customers on services and products that we provide is highly discretionary in nature, and subject to rapid and material change. Any further significant decline in oil and gas related spending on behalf of our customers could cause alterations in our capital spending plans, project modifications, delays or cancellations, general business disruptions or delays in payment, or non-payment of amounts that are owed to us, any one of which could have a material adverse effect on our financial condition and results of operations and on our ability to continue to satisfy all of the covenants in our debt agreements. Additionally, increases in oil and gas prices may not increase demand for our services and products or otherwise have a positive effect on our financial condition or results of operations. E&P companies' willingness to explore, develop and produce depends largely upon prevailing industry conditions that are influenced by numerous factors over which our management has no control, such as:

- the supply of and demand for oil and gas;
- the level of prices, and expectations about future prices, of oil and gas;
- the cost of exploring for, developing, producing and delivering oil and gas;
- the expected rates of decline for current production;
- the discovery rates of new oil and gas reserves;
- weather conditions, including hurricanes, that can affect oil and gas operations over a wide area, as well as less severe inclement weather that can preclude or delay seismic data acquisition;
- domestic and worldwide economic conditions;
- political instability in oil and gas producing countries;
- technical advances affecting energy consumption;
- government policies regarding the exploration, production and development of oil and gas reserves;
- the ability of oil and gas producers to raise equity capital and debt financing; and
- merger and divestiture activity among oil and gas companies and seismic contractors.

Since early 2014, crude oil prices have dropped by approximately 50%–70% as the non-U.S. economic outlook continues to weaken, North American production continues to expand, and more recently, Saudi Arabia has publicly stated its intention to support its global market share at the expense of lower prices.

The weakening economic outlook for non-U.S. oil demand, especially in China, has put more downward pressure on prices. Thus, the bottom-end of the price range for crude oil has decreased significantly beginning in the fourth quarter of 2015 compared to 2014.

In 2013 continuing through 2015, we started seeing decreased spending on exploration by E&P companies. As a result of recent decreases in crude oil prices, many E&P companies have announced that they are reducing their capital expenditures, which has resulted in diminished demand for our services and products and has caused downward pressure on the prices we charge or the level of work we do for our customers.

The level of oil and gas exploration and production activity has been volatile in recent years. Previously forecasted upward trends in oil and gas exploration and development activities have not continued and, in fact as discussed above, have declined, together with demand for our services and products. Any prolonged substantial reduction in oil and gas prices would likely further affect oil and gas production levels and therefore adversely affect demand for the

services we provide and products we sell.

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Our operating results often fluctuate from period to period, and we are subject to cyclicality and seasonality factors.
Our industry and the oil and gas industry in general are subject to cyclical fluctuations. Demand for our services and products depends upon spending levels by E&P companies for exploration, production, development and field management of oil and natural gas reserves and, in the case of new seismic data creation, the willingness of those companies to forgo ownership in the seismic data. Capital expenditures by E&P companies for these activities depend upon several factors, including actual and forecasted prices of oil and natural gas and those companies' short-term and strategic plans.

After a period of exploration-focused activities by E&P companies leading up to the fourth quarter of 2014, many E&P companies turned their focus more to production activities and less on exploration of prospects during 2015 as the continued decline in oil and gas prices resulted in decreasing revenues and prompted cost reduction initiatives across the industry. The World Bank recently slashed its forecast for oil prices for 2016, indicating that the cost of a barrel of crude is expected to stay near its current lows for the rest of 2016. One recent survey indicated that upstream oil and gas companies plan to reduce spending by 15% globally in 2016, following a 23% decline in 2015, representing only the second time spending has declined in consecutive years since 1986 and 1987. As of December 31, 2015, our Solutions segment backlog, consisting of commitments for data processing work and for underwritten multi-client new venture and proprietary projects by our was 59% less than our backlog existing as of December 31, 2014. Our Solutions backlog consists of commitments for both (i) data processing work, and (ii) multi-client new venture and proprietary projects largely underwritten by our customers. The decline in our backlog was primarily due to (i) the softening of customer underwriting for new ventures projects, and (ii) the delay of certain processing projects by customers. We expect the recently awarded contract extension from PEMEX to contribute toward rebuilding our backlog as additional work orders under this contract extension are received.

Our operating results are subject to fluctuations from period to period as a result of introducing new services and products, the timing of significant expenses in connection with customer orders, unrealized sales, levels of research and development activities in different periods, the product and service mix of our revenues and the seasonality of our business. Because some of our products feature a high sales price and are technologically complex, we generally experience long sales cycles for these types of products and historically incur significant expense at the beginning of these cycles, which may not ultimately occur. In addition, the revenues can vary widely from period to period due to changes in customer requirements and demand. These factors can create fluctuations in our net revenues and results of operations from period to period. Variability in our overall gross margins for any period, which depend on the percentages of higher-margin and lower-margin services and products sold in that period, compounds these uncertainties. As a result, if net revenues or gross margins fall below expectations, our results of operations and financial condition will likely be materially adversely affected.

Additionally, our business can be seasonal in nature, with strongest demand typically in the fourth calendar quarter of each year. Customer budgeting cycles at times result in higher spending activity levels by our customers at different points of the year.

Due to the relatively high sales price of many of our products and seismic data libraries, our quarterly operating results have historically fluctuated from period to period due to the timing of orders and shipments and the mix of services and products sold. This uneven pattern makes financial predictions for any given period difficult, increases the risk of unanticipated variations in our quarterly results and financial condition, and places challenges on our inventory management. Delays caused by factors beyond our control, such as the granting of permits for seismic surveys by third parties, the effect from disasters such as the Deepwater Horizon incident in the Gulf of Mexico and the availability and equipping of marine vessels, can affect our Solutions segment's revenues from its imaging and multi-client services from period to period. Also, delays in ordering products or in shipping or delivering products in a given period could significantly affect our results of operations for that period. While we experienced an all-time record for data library sales in the fourth quarter of 2013, sales starting in 2014 and continuing through 2015 have been negatively impacted by a softening of exploration spending by our E&P customers. Fluctuations in our quarterly operating results may cause greater volatility in the market price of our common stock.

Our indebtedness could adversely affect our liquidity, financial condition and our ability to fulfill our obligations and operate our business.

As of December 31, 2015, we had approximately $186.3 million of total outstanding indebtedness, including $9.8 million of capital leases. As of December 31, 2015, there was no outstanding indebtedness under our Credit Facility. Under our Credit Facility, as amended, the lender has committed $40.0 million of revolving credit, subject to a borrowing base. As of December 31, 2015, we have full availability under the Credit Facility. The amount available will increase or decrease monthly as our borrowing base changes. We may also incur additional indebtedness in the future. If we are required to post collateral for an appeal bond with a surety during the appeal process, depending on the size of the bond and the level of required collateral, in order to collateralize the bond we might need to utilize a combination of cash on hand an undrawn sums available for borrowing under our Credit Facility, and possibly incur additional debt financing. See “Management’s Discussion and Analysis of Financial Condition and Results of Operations” appearing below in this Form 10-K.

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In May 2015, Moody's Investor Services ("Moody's") downgraded our company's corporate and debt ratings to Caa3. According to Moody's, this downgrade reflects their expectation that our company will face unclear market conditions as a result of the decrease in crude oil and U.S. natural gas prices. Both Moody's and S&P continue to hold a negative outlook on our company due to the weak seismic sector fundamentals and concerns around maintaining sufficient liquidity to fund contingent liabilities.

Higher levels of indebtedness could have negative consequences to us, including:

- we may have difficulty satisfying our obligations with respect to our outstanding debt;
- we may have difficulty obtaining financing in the future for working capital, capital expenditures, acquisitions or other purposes;
- we may need to use all, or a substantial portion, of our available cash flow to pay interest and principal on our debt, which will reduce the amount of money available to finance our operations and other business activities;
- our vulnerability to general economic downturns and adverse industry conditions could increase;
- our flexibility in planning for, or reacting to, changes in our business and in our industry in general could be limited;
- our amount of debt and the amount we must pay to service our debt obligations could place us at a competitive disadvantage compared to our competitors that have less debt;
- our customers may react adversely to our significant debt level and seek or develop alternative licensors or suppliers;
- we may have insufficient funds, and our debt level may also restrict us from raising the funds necessary to repurchase all of the Notes (defined below) tendered to us upon the occurrence of a change of control, which would constitute an event of default under the Notes; and
- our failure to comply with the restrictive covenants in our debt instruments which, among other things, limit our ability to incur debt and sell assets, could result in an event of default that, if not cured or waived, could have a material adverse effect on our business or prospects.

Our level of indebtedness will require that we use a substantial portion of our cash flow from operations to pay principal of, and interest on, our indebtedness, which will reduce the availability of cash to fund working capital requirements, capital expenditures, research and development and other general corporate or business activities.

If we cannot meet the continued listing requirements of the New York Stock Exchange (the "NYSE"), the NYSE may delist our common shares, which would have an adverse impact on the trading volume, liquidity and market price of our common shares.

On August 11, 2015, we were notified by the NYSE that the average closing price of our common shares had fallen below $1.00 per share over a period of 30 consecutive trading days, which is the minimum average share price required by the NYSE under Section 802.01C of the NYSE Listed Company Manual. The notice has no immediate impact on the listing of our common shares, which will continue to be listed and traded on the NYSE during the six-month period described below, subject to our compliance with other listing standards, under the symbol "IO."

We have six months following receipt of the NYSE's notice to regain compliance with the NYSE's minimum share price requirement. We can regain compliance at any time during the six-month cure period if on the last trading day of any calendar month during the cure period our common shares have a closing share price of at least $1.00 and an average closing share price of at least $1.00 over the 30 trading-day period ending on the last trading day of such month. Notwithstanding the foregoing, if we determine that we must cure the price condition by taking an action that will require approval of our stockholders, we may also regain compliance by: (i) obtaining the requisite stockholder approval by no later than our next annual meeting, (ii) implementing the action promptly thereafter and (iii) the price of our common shares promptly exceeding $1.00 per share, and the price remaining above that level for at least the following 30 trading days.

A delisting of our common shares from the NYSE would negatively impact us because it would: (i) reduce the liquidity and market price of our common shares; (ii) reduce the number of investors willing to hold or acquire our common shares, which could negatively impact our ability to raise equity financing; (iii) limit our ability to use a registration statement to offer and sell freely tradable securities, thereby preventing us from accessing the public capital markets, and (iv) impair our ability to provide equity incentives to our employees.

On February 4, 2016, we completed a one-for-fifteen reverse stock split, and our stock began trading on a reverse-split adjusted basis on February 5, 2016. On February 5, 2016, the closing sale price for our common stock was $6.21 on the NYSE. We can provide no assurances that the reverse stock split will lead to a sustained increase in our share price or that it will allow

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us to regain compliance with the NYSE listing standards. Even if the reverse stock split does cause us to regain compliance, there can be no assurance that our share price will continue to remain in compliance with this standard. Our share price may be adversely affected due to, among other things, our financial results, market conditions and market perception of our business.

We may take steps to reduce or refinance outstanding debt, including the Notes, which could impact the market for our securities and negatively affect our liquidity.

We may from time to time take steps to reduce or refinance outstanding debt, including the Notes, or otherwise to reduce interest expense and other debt service obligations. These steps may include open market repurchases, redemptions, maturity extensions, exchange offers and other retirements, purchases or refinancing of outstanding debt, including the Notes, in whole or in part, in addition to making any required scheduled installment payments. The implementation of any such steps would depend on prevailing market conditions, liquidity requirements, contractual restrictions and other factors. Any such repurchases or redemptions could negatively affect our liquidity.

We are subject to intense competition, which could limit our ability to maintain or increase our market share or to maintain our prices at profitable levels.

Many of our sales are obtained through a competitive bidding process, which is standard for our industry. Competitive factors in recent years have included price, technological expertise, and a reputation for quality, safety and dependability. While no single company competes with us in all of our segments, we are subject to intense competition in each of our segments. New entrants in many of the markets in which certain of our services and products are currently strong should be expected. See Item 1. “Business – Competition.” We compete with companies that are larger than we are in terms of revenues, technical personnel, number of processing locations and sales and marketing resources. A few of our competitors have a competitive advantage in being part of a large affiliated seismic contractor company. In addition, we compete with major service providers and government-sponsored enterprises and affiliates. Some of our competitors conduct seismic data acquisition operations as part of their regular business, which we have traditionally not conducted, and have greater financial and other resources than we do. These and other competitors may be better positioned to withstand and adjust more quickly to volatile market conditions, such as fluctuations in oil and natural gas prices, as well as changes in government regulations. In addition, any excess supply of services and products in the seismic services market could apply downward pressure on prices for our services and products. The negative effects of the competitive environment in which we operate could have a material adverse effect on our results of operations. In particular, the consolidation in recent years of many of our competitors in the seismic services and products markets has negatively impacted our results of operations.

There are a number of geophysical companies that create, market and license seismic data and maintain seismic libraries. Competition for acquisition of new seismic data among geophysical service providers historically has been intense and we expect this competition will continue to be intense. Larger and better-financed operators could enjoy an advantage over us in a competitive environment for new data.

Our OceanGeo subsidiary involves numerous risks.

Our OceanGeo subsidiary is focused on operating as a seismic acquisition contractor concentrating on ocean bottom seismic (OBS) data acquisition. Although OceanGeo is actively pursuing several tenders for long-term work in 2016, the vessel was idle during 2015. There can be no assurance that we will achieve the expected benefits from this company. OceanGeo (and any future acquisitions that we may undertake) may result in unexpected costs, expenses and liabilities, which may have a material adverse effect on our business, financial condition or results of operations. OceanGeo may encounter further difficulties in developing and expanding its business.

OceanGeo’s business exposes us to the operating risks of being a seismic contractor with seismic crews:

- Seismic data acquisition activities in marine ocean bottom areas are subject to the risk of downtime or reduced productivity, as well as to the risks of loss to property and injury to personnel, mechanical failures and natural disasters. In addition to losses caused by human errors and accidents, we may also become subject to losses resulting from, among other things, political instability, business interruption, strikes and weather events; and
- OceanGeo’s equipment and services may expose us to litigation and legal proceedings, including those related to product liability, personal injury and contract liability.

We have in place insurance coverage against operating hazards, including product liability claims and personal injury claims, damage, destruction or business interruption related to OceanGeo's equipment and services, and whenever possible, OceanGeo will obtain agreements from customers that limit our liability. We also carry war, strikes, terrorism and related perils coverage for OceanGeo. However, we cannot assure you that the nature and amount of insurance will be sufficient to fully indemnify OceanGeo and us against liabilities arising from pending and future claims or that its insurance coverage will be adequate in all circumstances or against all hazards, and that we will be able to maintain adequate insurance coverage in the future at commercially reasonable rates or on acceptable terms.

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OceanGeo is also subject to, and exposes OceanGeo and us to, various additional risks that could adversely affect our results of operations and financial condition. These risks include the following:

- increased costs associated with the operation of the business and the management of geographically dispersed operations;
- OceanGeo’s cash flows may be inadequate to fund its capital requirements, thereby requiring additional contributions to OceanGeo by us;
- risks associated with our Calypso ocean bottom product that is intended to be utilized by OceanGeo in its operations, including risks that the new technology may not perform as well as we anticipate;
- difficulties in retaining and integrating key technical, sales and marketing personnel and the possible loss of such employees and costs associated with their loss;
- the diversion of management’s attention and other resources from other business operations and related concerns;
- the requirement to maintain uniform standards, controls and procedures;
- we may not be able to realize operating efficiencies, cost savings or other benefits that we expect from OceanGeo’s operations; and
- OceanGeo may experience difficulties and delays in securing new business and customer projects.

The indenture governing the 8.125% Senior Secured Second-Priority Notes due 2018 (the “Notes”) contains a number of restrictive covenants that limit our ability to finance future operations or capital needs or engage in other business activities that may be in our interest.

The indenture governing the Notes imposes, and the terms of any future indebtedness may impose, operating and other restrictions on us and our subsidiaries. Such restrictions affect or will affect, and in many respects limit or prohibit, among other things, our ability and the ability of certain of our subsidiaries to:

- incur additional indebtedness;
- create liens;
- pay dividends and make other distributions in respect of our capital stock;
- redeem our capital stock;
- make investments or certain other restricted payments;
- sell certain kinds of assets;
- enter into transactions with affiliates; and
- effect mergers or consolidations.

The restrictions contained in the indenture governing the Notes could:

- limit our ability to plan for or react to market or economic conditions or meet capital needs or otherwise restrict our activities or business plans; and
- adversely affect our ability to finance our operations, acquisitions, investments or strategic alliances or other capital needs or to engage in other business activities that would be in our interest.

A breach of any of these covenants could result in a default under the indenture governing the Notes. If an event of default occurs, the trustee and holders of the Notes could elect to declare all borrowings outstanding, together with accrued and unpaid interest, to be immediately due and payable. An event of default under the indenture governing the Notes would also constitute an event of default under our Credit Facility. See Footnote 4 “Long-term Debt and Lease Obligations” of the Footnotes to Consolidated Financial Statements appearing below in this Form 10-K.

As a technology-focused company, we are continually exposed to risks related to complex, highly technical services and products.

We have made, and we will continue to make, strategic decisions from time to time as to the technologies in which we invest. If we choose the wrong technology, our financial results could be adversely impacted. Our operating results are dependent upon our ability to improve and refine our seismic imaging and data processing services and to successfully develop, manufacture and market our products and other services and products. New technologies generally require a substantial investment before any assurance is available as to their commercial viability. If we choose the wrong technology, or if our competitors develop or select a superior technology, we could lose our existing customers and be unable to attract new customers, which would harm our business and operations.

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New data acquisition or processing technologies may be developed. New and enhanced services and products introduced by one of our competitors may gain market acceptance and, if not available to us, may adversely affect us. The markets for our services and products are characterized by changing technology and new product introductions. We must invest substantial capital to develop and maintain a leading edge in technology, with no assurance that we will receive an adequate rate of return on those investments. If we are unable to develop and produce successfully and timely new or enhanced services and products, we will be unable to compete in the future and our business, our results of operations and our financial condition will be materially and adversely affected. Our business could suffer from unexpected developments in technology, or from our failure to adapt to these changes. In addition, the preferences and requirements of customers can change rapidly.

The businesses of our Solutions and Software segments, being more concentrated in software, processing services and proprietary technologies, have also exposed us to various risks that these technologies typically encounter, including the following:

- future competition from more established companies entering the market;
- technology obsolescence;
- dependence upon continued growth of the market for seismic data processing;
- the rate of change in the markets for these segments' technology and services;
- further consolidation of the participants within this market;
- research and development efforts not proving sufficient to keep up with changing market demands;
- dependence on third-party software for inclusion in these segments' services and products;
- misappropriation of these segments' technology by other companies;
- alleged or actual infringement of intellectual property rights that could result in substantial additional costs;
- difficulties inherent in forecasting sales for newly developed technologies or advancements in technologies;
- recruiting, training and retaining technically skilled, experienced personnel that could increase the costs for these segments, or limit their growth; and
- the ability to maintain traditional margins for certain of their technology or services.

Seismic data acquisition and data processing technologies historically have progressed rather rapidly, and we expect this progression to continue. In order to remain competitive, we must continue to invest additional capital to maintain, upgrade and expand our seismic data acquisition and processing capabilities. However, due to potential advances in technology and the related costs associated with such technological advances, we may not be able to fulfill this strategy, thus possibly affecting our ability to compete.

Our customers often require demanding specifications for performance and reliability of our services and products. Because many of our products are complex and often use unique advanced components, processes, technologies and techniques, undetected errors and design and manufacturing flaws may occur. Even though we attempt to assure that our systems are always reliable in the field, the many technical variables related to their operations can cause a combination of factors that can, and have from time to time, caused performance and service issues with certain of our products. Product defects result in higher product service, warranty and replacement costs and may affect our customer relationships and industry reputation, all of which may adversely impact our results of operations. Despite our testing and quality assurance programs, undetected errors may not be discovered until the product is purchased and used by a customer in a variety of field conditions. If our customers deploy our new products and they do not work correctly, our relationship with our customers may be materially and adversely affected.

As a result of our systems' advanced and complex nature, we expect to experience occasional operational issues from time to time. Generally, until our products have been tested in the field under a wide variety of operational conditions, we cannot be certain that performance and service problems will not arise. In that case, market acceptance of our new products could be delayed and our results of operations and financial condition could be adversely affected.

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We have invested, and expect to continue to invest, significant sums of money in acquiring and processing seismic data for our Solutions' multi-client data library, without knowing precisely how much of this seismic data we will be able to license or when and at what price we will be able to license the data sets. Our business could be adversely affected by the failure of our customers to fulfill their obligations to reimburse us for the underwritten portion of our seismic data acquisition costs for our multi-client library.

We invest significant amounts in acquiring and processing new seismic data to add to our Solutions' multi-client data library. The costs of most of these investments are funded by our customers, with the remainder generally being recovered through future data licensing fees. In 2015, we invested approximately $45.6 million in our multi-client data library. Our customers generally commit to licensing the data prior to our initiating a new data library acquisition program. However, the aggregate amounts of future licensing fees for this data are uncertain and depend on a variety of factors, including the market prices of oil and gas, customer demand for seismic data in the library, and the availability of similar data from competitors.

By making these investments in acquiring and processing new seismic data for our Solutions' multi-client library, we are exposed to the following risks:

- We may not fully recover our costs of acquiring and processing seismic data through future sales. The ultimate amounts involved in these data sales are uncertain and depend on a variety of factors, many of which are beyond our control.
- The timing of these sales is unpredictable and can vary greatly from period to period. The costs of each survey are capitalized and then amortized as a percentage of sales and/or over the expected useful life of the data. This amortization will affect our earnings and, when combined with the sporadic nature of sales, will result in increased earnings volatility.
- Regulatory changes that affect companies' ability to drill, either generally or in a specific location where we have acquired seismic data, could materially adversely affect the value of the seismic data contained in our library. Technology changes could also make existing data sets obsolete. Additionally, each of our individual surveys has a limited book life based on its location and oil and gas companies' interest in prospecting for reserves in such location, so a particular survey may be subject to a significant decline in value beyond our initial estimates.
- The value of our multi-client data could be significantly adversely affected if any material adverse change occurs in the general prospects for oil and gas exploration, development and production activities.
- The cost estimates upon which we base our pre-commitments of funding could be wrong. The result could be losses that have a material adverse effect on our financial condition and results of operations. These pre-commitments of funding are subject to the creditworthiness of our clients. In the event that a client refuses or is unable to pay its commitment, we could incur a substantial loss on that project.
- As part of our asset-light strategy, we routinely charter vessels from third-party vendors to acquire seismic data for our multi-client business. As a result, our cost to acquire our multi-client data could significantly increase if vessel charter prices rise materially.

Reductions in demand for our seismic data, or lower revenues of or cash flows from our seismic data, may result in a requirement to increase amortization rates or record impairment charges in order to reduce the carrying value of our data library. These increases or charges, if required, could be material to our operating results for the periods in which they are recorded.

A substantial portion (approximately 86% in 2015) of our seismic acquisition project costs (including third-party project costs) are underwritten by our customers. In the event that underwriters for such projects fail to fulfill their obligations with respect to such underwriting commitments, we would continue to be obligated to satisfy our payment obligations to third-party contractors.

We derive a substantial amount of our revenues from foreign operations and sales, which pose additional risks.

The majority of our foreign sales are denominated in U.S. dollars. Sales to customer destinations outside of North America represented 66%, 74% and 73% of our consolidated net revenues for 2015, 2014 and 2013, respectively, of our consolidated net revenues. We believe that export sales will remain a significant percentage of our revenue. U.S. export restrictions affect the types and specifications of products we can export. Additionally, in order to complete certain sales, U.S. laws may require us to obtain export licenses, and we cannot assure you that we will not experience

difficulty in obtaining these licenses.

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Like many energy services companies, we have operations in and sales into certain international areas, including parts of the Middle East, West Africa, Latin America, Asia Pacific and the former Soviet Union, that are subject to risks of war, political disruption, civil disturbance, political corruption, possible economic and legal sanctions (such as possible restrictions against countries that the U.S. government may in the future consider to be state sponsors of terrorism) and changes in global trade policies. Our sales or operations may become restricted or prohibited in any country in which the foregoing risks occur. In particular, the occurrence of any of these risks could result in the following events, which in turn, could materially and adversely impact our results of operations:

- disruption of E&P activities;
- restriction on the movement and exchange of funds;
- inhibition of our ability to collect advances and receivables;
- enactment of additional or stricter U.S. government or international sanctions;
- limitation of our access to markets for periods of time;
- expropriation and nationalization of assets of our company or those of our customers;
- political and economic instability, which may include armed conflict and civil disturbance;
- currency fluctuations, devaluations and conversion restrictions;
- confiscatory taxation or other adverse tax policies; and
- governmental actions that may result in the deprivation of our contractual rights.

Our international operations and sales increase our exposure to other countries’ restrictive tariff regulations, other import/export restrictions and customer credit risk.

In addition, we are subject to taxation in many jurisdictions and the final determination of our tax liabilities involves the interpretation of the statutes and requirements of taxing authorities worldwide. Our tax returns are subject to routine examination by taxing authorities, and these examinations may result in assessments of additional taxes, penalties and/or interest.

We may be unable to obtain broad intellectual property protection for our current and future products and we may become involved in intellectual property disputes; we rely on developing and acquiring proprietary data which we keep confidential.

We rely on a combination of patent, copyright and trademark laws, trade secrets, confidentiality procedures and contractual provisions to protect our proprietary technologies. We believe that the technological and creative skill of our employees, new product developments, frequent product enhancements, name recognition and reliable product maintenance are the foundations of our competitive advantage. Although we have a considerable portfolio of patents, copyrights and trademarks, these property rights offer us only limited protection. Our competitors may attempt to copy aspects of our products despite our efforts to protect our proprietary rights, or may design around the proprietary features of our products. Policing unauthorized use of our proprietary rights is difficult, and we are unable to determine the extent to which such use occurs. Our difficulties are compounded in certain foreign countries where the laws do not offer as much protection for proprietary rights as the laws of the United States.

Third parties inquire and claim from time to time that we have infringed upon their intellectual property rights. Many of our competitors own their own extensive global portfolio of patents, copyrights, trademarks, trade secrets and other intellectual property to protect their proprietary technologies. We believe that we have in place appropriate procedures and safeguards to help ensure that we do not violate a third party’s intellectual property rights. However, no set of procedures and safeguards is infallible. We may unknowingly and inadvertently take action that is inconsistent with a third party’s intellectual property rights, despite our efforts to do otherwise. Any such claims from third parties, with or without merit, could be time consuming, result in costly litigation, result in injunctions, require product modifications, cause product shipment delays or require us to enter into royalty or licensing arrangements. Such claims could have a material adverse effect on our results of operations and financial condition.

Much of our litigation in recent years have involved disputes over our and others’ rights to technology. See Item 3. “Legal Proceedings.”

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To protect the confidentiality of our proprietary and trade secret information, we require employees, consultants, contractors, advisors and collaborators to enter into confidentiality agreements. Our customer data license and acquisition agreements also identify our proprietary, confidential information and require that such proprietary information be kept confidential. While these steps are taken to strictly maintain the confidentiality of our proprietary and trade secret information, it is difficult to ensure that unauthorized use, misappropriation or disclosure will not occur. If we are unable to maintain the secrecy of our proprietary, confidential information, we could be materially adversely affected.

If we do not effectively manage our transition into new services and products, our revenues may suffer.

Services and products for the geophysical industry are characterized by rapid technological advances in hardware performance, software functionality and features, frequent introduction of new services and products, and improvement in price characteristics relative to product and service performance. Among the risks associated with the introduction of new services and products are delays in development or manufacturing, variations in costs, delays in customer purchases or reductions in price of existing products in anticipation of new introductions, write-offs or write-downs of the carrying costs of inventory and raw materials associated with prior generation products, difficulty in predicting customer demand for new product and service offerings and effectively managing inventory levels so that they are in line with anticipated demand, risks associated with customer qualification, evaluation of new products, and the risk that new products may have quality or other defects or may not be supported adequately by application software. The introduction of new services and products by our competitors also may result in delays in customer purchases and difficulty in predicting customer demand. If we do not make an effective transition from existing services and products to future offerings, our revenues and margins may decline.

Furthermore, sales of our new services and products may replace sales, or result in discounting of some of our current product or service offerings, offsetting the benefits of a successful introduction. In addition, it may be difficult to ensure performance of new services and products in accordance with our revenue, margin and cost estimations and to achieve operational efficiencies embedded in our estimates. Given the competitive nature of the seismic industry, if any of these risks materializes, future demand for our services and products, and our future results of operations, may suffer.

Global economic conditions and credit market uncertainties could have an adverse effect on customer demand for certain of our services and products, which in turn would adversely affect our results of operations, our cash flows, our financial condition and our stock price.

Historically, demand for our services and products has been sensitive to the level of exploration spending by E&P companies and geophysical contractors. The demand for our services and products will be lessened if exploration expenditures by E&P companies are reduced. During periods of reduced levels of exploration for oil and natural gas, there have been oversupplies of seismic data and downward pricing pressures on our seismic services and products, which, in turn, have limited our ability to meet sales objectives and maintain profit margins for our services and products. In the past, these then-prevailing industry conditions have had the effect of reducing our revenues and operating margins. The markets for oil and gas historically have been volatile and may continue to be so in the future.

Turmoil or uncertainty in the credit markets and its potential impact on the liquidity of major financial institutions may have an adverse effect on our ability to fund our business strategy through borrowings under either existing or new debt facilities in the public or private markets and on terms we believe to be reasonable. Likewise, there can be no assurance that our customers will be able to borrow money for their working capital or capital expenditures on a timely basis or on reasonable terms, which could have a negative impact on their demand for our services and products and impair their ability to pay us for our services and products on a timely basis, or at all.

Our sales have historically been affected by interest rate fluctuations and the availability of liquidity, and we and our customers would be adversely affected by increases in interest rates or liquidity constraints. Rising interest rates may also make certain alternative services and products provided by our competitors more attractive to customers, which could lead to a decline in demand for our services and products. This could have a material adverse effect on our business, results of operations, financial condition and cash flows.

The loss of any significant customer or the inability of our customers to meet their payment obligations to us could materially and adversely affect our results of operations and financial condition.

Our business is exposed to risks related to customer concentration. While no single customer represented 10% or more of our consolidated net revenues for 2015, 2014 and 2013, our top five customers together accounted for approximately 36%, 35% and 29%, respectively, of our consolidated net revenues during those years. The loss of any of our significant customers or deterioration in our relations with any of them could materially and adversely affect our results of operations and financial condition.

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During the last ten years, our traditional seismic contractor customers have been rapidly consolidating, thereby consolidating the demand for our services and products. The loss of any of our significant customers to further consolidation could materially and adversely affect our results of operations and financial condition.

Our business is exposed to risks of loss resulting from nonpayment by our customers. Many of our customers finance their activities through cash flow from operations, the incurrence of debt or the issuance of equity. Declines in commodity prices, and the credit markets could cause the availability of credit could be constrained. The combination of lower cash flow due to commodity prices, a reduction in borrowing bases under reserve-based credit facilities and the lack of available debt or equity financing may result in a significant reduction in our customers' liquidity and ability to pay their obligations to us. Furthermore, some of our customers may be highly leveraged and subject to their own operating and regulatory risks, which increases the risk that they may default on their obligations to us. The inability or failure of our significant customers to meet their obligations to us or their insolvency or liquidation may adversely affect our financial results.

Our stock price has been volatile from time to time, declining precipitously from time to time during the period from 2008 through the present, and it could decline again.

The securities markets in general and our common stock in particular have experienced significant price and volume volatility in recent years. The market price and trading volume of our common stock may continue to experience significant fluctuations due not only to general stock market conditions but also to a change in sentiment in the market regarding our operations or business prospects or those of companies in our industry. In addition to the other risk factors discussed in this section, the price and volume volatility of our common stock may be affected by:

- operating results that vary from the expectations of securities analysts and investors;
- factors influencing the levels of global oil and natural gas exploration and exploitation activities, such as the decline in crude oil prices and depressed prices for natural gas in North America or disasters such as the Deepwater Horizon incident in the Gulf of Mexico in 2010;
- the operating and securities price performance of companies that investors or analysts consider comparable to us;
- actions by rating agencies related to the Notes;
- announcements of strategic developments, acquisitions and other material events by us or our competitors; and
- changes in global financial markets and global economies and general market conditions, such as interest rates, commodity and equity prices and the value of financial assets.

To the extent that the price of our common stock remains at lower levels or it declines further, our ability to raise funds through the issuance of equity or otherwise use our common stock as consideration will be reduced. In addition, further borrowings by us may make it more difficult for us to access additional capital. These factors may limit our ability to implement our operating and growth plans.

On February 4, 2016, we completed a one-for-fifteen reverse stock split, and our stock began trading on a reverse-split adjusted basis on February 5, 2016.

Goodwill, intangible assets and multi-client data library that we have recorded are subject to impairment evaluations and, as a result, we could be required to write-off additional goodwill and intangible assets. In addition, portions of our products inventory may become obsolete or excessive due to future changes in technology, changes in market demand, or changes in market expectations. Write-downs of these assets may adversely affect our financial condition and results of operations.

In accordance with Accounting Standard Codification ("ASC") 350, "Intangibles – Goodwill and Other" ("ASC 350"), we are required to compare the fair value of our goodwill and intangible assets (when certain impairment indicators under ASC 350 are present) to their carrying amount. If the fair value of such goodwill or intangible assets is less than its carrying value, an impairment loss is recorded to the extent that the fair value of these assets within the reporting units is less than their carrying value.

In 2014, we recorded an impairment charge of $21.9 million related to our goodwill in our Marine Systems reporting unit. For goodwill testing purposes, the litigation contingency accrual of $123.8 million as of December 31, 2014 was assigned to this reporting unit. Based on this accrual and the recording of a valuation allowance on substantially all of our net deferred tax assets, this reporting unit's carrying value was negative as of December 31, 2014. The negative carrying value required us to perform Step 2 of the impairment test on Marine Systems; the test determined that the

goodwill associated with the Marine Systems reporting unit was impaired. We also recorded a $1.4 million impairment of certain intangible assets related to customer relationship, and we recorded a $100.1 million impairment of our multi-client data library within our Solutions segment at December 31, 2014.

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Further reductions in or an impairment of the value of our goodwill or other intangible assets will result in additional charges against our earnings, which could have a material adverse effect on our reported results of operations and financial position in future periods. At December 31, 2015, our remaining goodwill and other intangible asset balances were $26.3 million and $4.8 million, respectively.

Our services and products' technologies often change relatively quickly. Phasing out of old products involves estimating the amounts of inventories we need to hold to satisfy demand for those products and satisfy future repair part needs. Based on changing technologies and customer demand, we may find that we have either obsolete or excess inventory on hand. Because of unforeseen future changes in technology, market demand or competition, we might have to write off unusable inventory, which would adversely affect our results of operations. For the year ended December 31, 2015, the reserve for excess and obsolete inventory decreased primarily due to the disposal of reserved inventory.

Due to the international scope of our business activities, our results of operations may be significantly affected by currency fluctuations.

We derive approximately 66% of our consolidated net revenues from international sales, subjecting us to risks relating to fluctuations in currency exchange rates. Currency variations can adversely affect margins on sales of our products in countries outside of the United States and margins on sales of products that include components obtained from suppliers located outside of the United States. Through our subsidiaries, we operate in a wide variety of jurisdictions, including the United Kingdom, Australia, the Netherlands, Brazil, China, Canada, Russia, the United Arab Emirates, Egypt and other countries. Certain of these countries have experienced geopolitical instability, economic problems and other uncertainties from time to time. To the extent that world events or economic conditions negatively affect our future sales to customers in these and other regions of the world, or the collectability of receivables, our future results of operations, liquidity and financial condition may be adversely affected. In the fourth quarter of 2014, the decline in crude oil prices, as well as U.S. and European Union sanctions against Russia related to Russia's actions in Ukraine, have both contributed to the devaluation of the Russian ruble putting significant pressure on our Russian-based customers and negatively impacting the appeal of seismic data located in Russia to potential non-Russian buyers. In 2015, the Russian ruble strengthened briefly during the first quarter of the year. However, it continued to decline sharply in both the third and fourth quarters and into January 2016, reaching its lowest level since the currency was redenominated in 1998. Our results of operations, liquidity and financial condition related to our operations in Russia are primarily denominated in U.S. dollars.

We currently require customers in certain higher risk countries to provide their own financing. We do not currently extend long-term credit through notes to companies in countries where we perceive excessive credit risk.

A majority of our foreign net working capital is within the United Kingdom. Our consolidated balance sheet at December 31, 2015 reflected approximately $21.8 million of net working capital related to our foreign subsidiaries, a majority of which is within the United Kingdom. Our subsidiaries in the U.K. and in other countries receive their income and pay their expenses primarily in their local currencies. To the extent that transactions of these subsidiaries are settled in their local currencies, a devaluation of those currencies versus the U.S. dollar could reduce the contribution from these subsidiaries to our consolidated results of operations as reported in U.S. dollars. For financial reporting purposes, such depreciation will negatively affect our reported results of operations since earnings denominated in foreign currencies would be converted to U.S. dollars at a decreased value. In addition, since we participate in competitive bids for sales of certain of our services and products that are denominated in U.S. dollars, a depreciation of the U.S. dollar against other currencies could harm our competitive position relative to other companies. While we periodically employ economic cash flow and fair value hedges to minimize the risks associated with these exchange rate fluctuations, the hedging activities may be ineffective or may not offset more than a portion of the adverse financial impact resulting from currency variations. Accordingly, we cannot assure you that fluctuations in the values of the currencies of countries in which we operate will not materially adversely affect our future results of operations.

We rely on highly skilled personnel in our businesses, and if we are unable to retain or motivate key personnel or hire qualified personnel, we may not be able to grow effectively.

Our performance is largely dependent on the talents and efforts of highly skilled individuals. Our future success depends on our continuing ability to identify, hire, develop, motivate and retain skilled personnel for all areas of our organization. We require highly skilled personnel to operate and provide technical services and support for our businesses. Competition for qualified personnel required for our data processing operations and our other segments' businesses has intensified in recent years. Our growth has presented challenges to us to recruit, train and retain our employees while managing the impact of potential wage inflation and the lack of available qualified labor in some markets where we operate. A well-trained, motivated and adequately-staffed work force has a positive impact on our ability to attract and retain business. Our continued ability to compete effectively depends on our ability to attract new employees and to retain and motivate our existing employees.

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However, from time to time, we have to rightsize our work force due to economic and market conditions. We initiated workforce reductions in December 2014, combined with continued restructurings through 2015, we have reduced our full-time employee base by approximately 50%. In addition we reduced salaries by 10% for the majority of our employees for the foreseeable future.

If we, our option holders or stockholders holding registration rights sell additional shares of our common stock in the future, the market price of our common stock could decline. The exercise of our stock options could result in substantial dilution to our existing stockholders. Sales in the open market of the shares of common stock acquired upon such exercises may have the effect of reducing the then current market price for our common stock.

The market price of our common stock could decline as a result of sales of a large number of shares of our common stock in the market in the future, or the perception that such sales could occur. These sales, or the possibility that these sales may occur, could make it more difficult for us to sell equity securities in the future at a time and at a price that we deem appropriate. As of February 5, 2016, we had 10,567,558 shares of common stock issued and outstanding. Substantially all of these shares are available for sale in the public market, subject in some cases to volume and other limitations or delivery of a prospectus. At February 5, 2016, we had outstanding stock options to purchase up to 545,544 shares of our common stock at a weighted average exercise price of $89.74 per share. We also had, as of that date, 73,427 shares of common stock reserved for issuance under outstanding restricted stock and restricted stock unit awards. The numbers of shares and option exercise price have been retroactively adjusted to reflect the one-for-fifteen reverse stock split completed on February 5, 2016.

During 2009, we issued in a privately-negotiated transaction 1.23 million shares of our common stock to certain institutional investors. In March 2010, we issued 1.58 million shares to BGP in a privately-negotiated transaction in connection with the formation of our INOVA Geophysical joint venture. These shares may be resold into the public markets in sale transactions pursuant to currently-effective registration statements filed with the SEC or pursuant to another exemption from registration. Sales in the public market of a large number of shares of common stock (or the perception that such sales could occur) could apply downward pressure on the prevailing market price of our common stock. The numbers of shares have been retroactively adjusted to reflect the one-for-fifteen reverse stock split completed on February 4, 2016.

Shares of our common stock are also subject to certain demand and piggyback registration rights held by Laitram, L.L.C., an affiliate of one of our directors. We also may enter into additional registration rights agreements in the future in connection with any subsequent acquisitions or securities transactions we may undertake. Any sales of our common stock under these registration rights arrangements with Laitram or other stockholders could be negatively perceived in the trading markets and negatively affect the price of our common stock. Sales of a substantial number of our shares of common stock in the public market under these arrangements, or the expectation of such sales, could cause the market price of our common stock to decline.

Certain of our facilities could be damaged by hurricanes and other natural disasters, which could have an adverse effect on our results of operations and financial condition.

Certain of our facilities are located in regions of the United States that are susceptible to damage from hurricanes and other weather events, and, during 2005, were impacted by hurricanes or other weather events. Our Systems segment leases 150,000 square feet of facilities located in Harahan, Louisiana, in the greater New Orleans metropolitan area. In late August 2005, we suspended operations at these facilities and evacuated and locked down the facilities in preparation for Hurricane Katrina. These facilities did not experience flooding or significant damage during or after the hurricane. However, because of employee evacuations, power failures and lack of related support services, utilities and infrastructure in the New Orleans area, we were unable to resume full operations at the facilities until late September 2005. In September 2008, we lost power and related services for several days at our offices located in the Houston metropolitan area, which includes a substantial portion of our data processing infrastructure, and in Harahan, Louisiana, as a result of Hurricane Ike and Hurricane Gustav.

Future hurricanes or similar natural disasters that impact our facilities may negatively affect our financial position and operating results for those periods. These negative effects may include reduced production, product sales and data processing revenues; costs associated with resuming production; reduced orders for our services and products from customers that were similarly affected by these events; lost market share; late deliveries; additional costs to purchase

materials and supplies from outside suppliers; uninsured property losses; inadequate business interruption insurance and an inability to retain necessary staff. To the extent that climate change increases the severity of hurricanes and other weather events, as some have suggested, it could worsen the severity of these negative effects on our financial position and operating results.

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Our operations, and the operations of our customers, are subject to numerous government regulations, which could adversely limit our operating flexibility. Regulatory initiatives undertaken from time to time, such as restrictions, sanctions and embargoes, can adversely affect, and have adversely affected, our customers and our business.

In addition to the specific regulatory risks discussed elsewhere in this Item 1A. “Risk Factors” section, our operations are subject to other laws, regulations, government policies and product certification requirements worldwide. Changes in such laws, regulations, policies or requirements could affect the demand for our products or services or result in the need to modify our services and products, which may involve substantial costs or delays in sales and could have an adverse effect on our future operating results. Our export activities in particular are subject to extensive and evolving trade regulations. Certain countries are subject to restrictions, including most recently Russia, sanctions and embargoes imposed by the United States government. These restrictions, sanctions and embargoes also prohibit or limit us from participating in certain business activities in those countries. In addition our operations are subject to numerous local, state and federal laws and regulations in the United States and in foreign jurisdictions concerning the containment and disposal of hazardous materials, the remediation of contaminated properties, and the protection of the environment. These laws have been changed frequently in the past, and there can be no assurance that future changes will not have a material adverse effect on us. In addition, our customers’ operations are also significantly impacted by laws and regulations concerning the protection of the environment and endangered species. Consequently, changes in governmental regulations applicable to our customers may reduce demand for our services and products. To the extent that our customers’ operations are disrupted by future laws and regulations, our business and results of operations may be materially and adversely affected.

Offshore oil and gas exploration and development recently has been a regulatory focus. Future changes in laws or regulations regarding such activities, and decisions by customers, governmental agencies or other industry participants in response, could reduce demand for our services and products, which could have a negative impact on our financial position, results of operations or cash flows. New emissions standards or other environmental regulations imposed on off-shore vessels, for example, could increase our cost of procuring seismic acquisition vessels, cause unexpected downtime or decrease vessel availability. We cannot reasonably or reliably estimate that such changes will occur, when they will occur, or whether they will impact us. Such changes can occur quickly within a region, which may impact both the affected region and global exploration and production, and we may not be able to respond quickly, or at all, to mitigate these changes. In addition, these future laws and regulations could result in increased compliance costs or additional operating restrictions that may adversely affect the financial health of our customers and decrease the demand for our services and products.

Climate change regulations or legislation could result in increased operating costs and reduced demand for the oil and gas our clients intend to produce.

In response to concerns about the effect of greenhouse gases (including carbon dioxide and methane) (“GHGs”) on global climate change, legislative and regulatory measures to address GHG emissions are in various phases of discussion or implementation at the local, state, national and international levels. The Obama Administration, for example, has launched a number of climate change initiatives, including the development of standards restricting GHG emissions from vehicles and a Strategy to Reduce Methane Emissions from the oil and gas industry by 40-45% by 2025 as compared to 2012 levels. At least one-third of the states, either individually or through multi-state regional initiatives, have already taken legal measures intended to reduce GHG emissions, primarily through the planned development of GHG emission inventories, GHG cap and trade programs or incentives to use renewable energy. Regulations and laws relating to GHGs and climate change that are still more stringent may be adopted in the future. Any additional operating restrictions associated with legislation or regulations regarding GHG emissions could increase our costs and downtime and reduce the demand for our services and products. Reductions in our revenues or increases in our expenses as a result of climate control initiatives could have adverse effects on our business, financial position, results of operations and prospects.

Increased regulation of onshore hydraulic fracturing could result in reductions or delays in drilling and completing new oil and natural gas wells, which could adversely impact our revenues by decreasing the demand for our data libraries and seismic acquisition services.

More than 90% of all onshore oil and natural gas wells drilled in the U.S. employ hydraulic fracturing techniques. The fracturing process involves the injection of water, sand or other proppants and chemicals under pressure into the target reservoir to stimulate hydrocarbon production. Our business is highly dependent on the level of activity by our oil and gas E&P customers, and hydrocarbons cannot be economically produced from certain reservoirs, especially low permeability formations such as shales, without extensive hydraulic fracturing.

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Due to public concerns about hydraulic fracturing, including potential impairment of groundwater quality, legislative and regulatory efforts at the federal, state and local levels have been initiated to impose more stringent permitting and compliance obligations on these operations. In certain areas of the country, new drilling permits for hydraulic fracturing even have been put on hold. Ongoing studies of hydraulic fracturing, such as the U.S. Environmental Protection Agency's ongoing assessment of potential impacts on drinking water resources, may lead to further regulations. In the event additional hydraulic fracturing requirements are enacted, demand for our shale data libraries and seismic data acquisition services and products may be adversely affected.

We have outsourcing arrangements with third parties to manufacture some of our products. If these third party suppliers fail to deliver quality products or components at reasonable prices on a timely basis, we may alienate some of our customers and our revenues, profitability and cash flow may decline. Additionally, current global economic conditions could have a negative impact on our suppliers, causing a disruption in our vendor supplies. A disruption in vendor supplies may adversely affect our results of operations.

Our manufacturing processes require us to purchase quality components. In addition, we use contract manufacturers as an alternative to our own manufacturing of products. We have outsourced the manufacturing of our products, including our towed marine streamers, geophone manufacturing and ocean bottom cables. Certain components used in our towed marine manufacturing operations are currently provided by a single supplier. Without these sole suppliers, we would be required to find other suppliers who could build these components for us, or set up to make these parts internally. If, in implementing any outsource initiative, we are unable to identify contract manufacturers willing to contract with us on competitive terms and to devote adequate resources to fulfill their obligations to us or if we do not properly manage these relationships, our existing customer relationships may suffer. In addition, by undertaking these activities, we run the risk that the reputation and competitiveness of our services and products may deteriorate as a result of the reduction of our control over quality and delivery schedules. We also may experience supply interruptions, cost escalations and competitive disadvantages if our contract manufacturers fail to develop, implement, or maintain manufacturing methods appropriate for our products and customers.

Reliance on certain suppliers, as well as industry supply conditions, generally involves several risks, including the possibility of a shortage or a lack of availability of key components, increases in component costs and reduced control over delivery schedules. If any of these risks are realized, our revenues, profitability and cash flows may decline. In addition, the more we come to rely on contract manufacturers, we may have fewer personnel resources with expertise to manage problems that may arise from these third-party arrangements.

Additionally, our suppliers could be negatively impacted by current global economic conditions. If certain of our suppliers were to experience significant cash flow issues or become insolvent as a result of such conditions, it could result in a reduction or interruption in supplies to us or a significant increase in the price of such supplies and adversely impact our results of operations and cash flows.

Under some of our outsourcing arrangements, our manufacturing outsourcers purchase agreed-upon inventory levels to meet our forecasted demand. Our manufacturing plans and inventory levels are generally based on sales forecasts. If demand proves to be less than we originally forecasted and we cancel our committed purchase orders, our outsourcers generally will have the right to require us to purchase inventory which they had purchased on our behalf. Should we be required to purchase inventory under these terms, we may be required to hold inventory that we may never utilize.

Our business is subject to cybersecurity risks and threats.

Threats to our information technology systems associated with cybersecurity risk and cyber incidents or attacks continue to grow. It is also possible that breaches to our systems could go unnoticed for some period of time. Risks associated with these threats include, among other things, loss of intellectual property, impairment of our ability to conduct our operations, disruption of our customers' operations, loss or damage to our customer data delivery systems, and increased costs to prevent, respond to or mitigate cybersecurity events.

Our certificate of incorporation and bylaws, Delaware law and certain contractual obligations under our agreement with BGP contain provisions that could discourage another company from acquiring us.

Provisions of our certificate of incorporation and bylaws, Delaware law and the terms of our investor rights agreement with BGP may have the effect of discouraging, delaying or preventing a merger or acquisition that our stockholders

may consider favorable, including transactions in which you might otherwise receive a premium for shares of our common stock. These provisions include:

- authorizing the issuance of “blank check” preferred stock without any need for action by stockholders;
- providing for a classified board of directors with staggered terms;

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- requiring supermajority stockholder voting to effect certain amendments to our certificate of incorporation and bylaws;
- eliminating the ability of stockholders to call special meetings of stockholders;
- prohibiting stockholder action by written consent; and
- establishing advance notice requirements for nominations for election to the board of directors or for proposing matters that can be acted on by stockholders at stockholder meetings.

In addition, the terms of our INOVA Geophysical joint venture with BGP and BGP's investment in our company contain a number of provisions, such as certain pre-emptive rights granted to BGP with respect to certain future issuances of our stock, that could have the effect of discouraging, delaying or preventing a merger or acquisition of our company that our stockholders may otherwise consider to be favorable.

Failure to maintain effective internal controls in accordance with Section 404 of the Sarbanes-Oxley Act could have a material adverse effect on our stock price.

If, in the future, we fail to maintain the adequacy of our internal controls, as such standards are modified, supplemented or amended from time to time, we may not be able to ensure that we can conclude on an ongoing basis that we have effective internal controls over financial reporting in accordance with Section 404 of the Sarbanes-Oxley Act. Failure to achieve and maintain an effective internal control environment could have a material adverse effect on the price of our common stock.

Note: The foregoing factors pursuant to the Private Securities Litigation Reform Act of 1995 should not be construed as exhaustive. In addition to the foregoing, we wish to refer readers to other factors discussed elsewhere in this report as well as other filings and reports with the SEC for a further discussion of risks and uncertainties that could cause actual results to differ materially from those contained in forward-looking statements. We undertake no obligation to publicly release the result of any revisions to any such forward-looking statements, which may be made to reflect the events or circumstances after the date hereof or to reflect the occurrence of unanticipated events.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

Our principal operating facilities at December 31, 2015 were as follows:

Operating Facilities	Square Footage	Segment
Houston, Texas	210,000	Global Headquarters, Solutions and Ocean Bottom Services
Harahan, Louisiana	150,000	Systems
Edinburgh, Scotland	23,000	Software
Chertsey, England	19,000	Solutions
Jebel Ali, Dubai, United Arab Emirates	2,000	International Sales Headquarters
	404,000	

Each of these operating facilities is leased by us under long-term lease agreements. These lease agreements have terms that expire ranging from 2016 to 2025. See Footnote 13 "Operating Leases" of Footnotes to Consolidated Financial Statements.

In addition, we lease offices in Beijing, China; Rio de Janiero, Brazil; and Moscow, Russia to support our global sales force. We lease offices for our seismic data processing centers in Port Harcourt, Nigeria; Luanda, Angola; Moscow, Russia; Cairo, Egypt; Villahermosa, Mexico; Rio de Janeiro, Brazil; and Port of Spain, Trinidad. We also lease other facilities in Stafford, Texas; and Calgary, Canada. Our executive headquarters is located at 2105 CityWest Boulevard, Suite 400, Houston, Texas. The machinery, equipment, buildings and other facilities owned and leased by us are considered by our management to be sufficiently maintained and adequate for our current operations.

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Item 3. Legal Proceedings

WesternGeco

In June 2009, WesternGeco filed a lawsuit against us in the United States District Court for the Southern District of Texas, Houston Division. In the lawsuit, styled WesternGeco L.L.C. v. ION Geophysical Corporation, WesternGeco alleged that we had infringed several method and apparatus claims contained in four of its United States patents regarding marine seismic streamer steering devices.

The trial began in July 2012. A verdict was returned by the jury in August 2012, finding that we infringed the claims contained in the four patents by supplying our DigiFIN lateral streamer control units and the related software from the United States and awarded WesternGeco the sum of $105.9 million in damages, consisting of $12.5 million in reasonable royalty and $93.4 million in lost profits.

In June 2013, the presiding judge entered a Memorandum and Order,denying our post-verdict motions that challenged the jury's infringement findings and the damages amount. In the Memorandum and Order, the judge also stated that WesternGeco is entitled to be awarded supplemental damages for the additional DigiFIN units that were supplied from the United States before and after trial that were not included in the jury verdict due to the timing of the trial. In October 2013, the judge entered another Memorandum and Order, ruling on the number of DigiFIN units that are subject to supplemental damages and also ruling that the supplemental damages applicable to the additional units should be calculated by adding together the jury's previous reasonable royalty and lost profits damages awards per unit, resulting in supplemental damages of $73.1 million.

In April 2014, the judge entered another Order, ruling that lost profits should not have been included in the calculation of supplemental damages in the October 2013 Memorandum and Order and reducing the supplemental damages award in the case from $73.1 million to $9.4 million. In the Order, the judge also further reduced the damages award in the case by $3.0 million to reflect a settlement and license that WesternGeco entered into with a customer of ours that had purchased and used DigiFIN units that were also included in the damage amounts awarded against us.

In May 2014, the judge signed and entered a Final Judgment against us in the amount of $123.8 million. The Final Judgment also included an injunction that enjoins us, our agents and anyone acting in concert with us, from supplying in or from the United States the DigiFIN product or any parts unique to the DigiFIN product, or any instrumentality no more than colorably different from any of these products or parts, for combination outside of the United States. We have conducted our business in compliance with the district court's orders in the case, and we have reorganized our operations such that we no longer supply the DigiFIN product or any parts unique to the DigiFIN product in or from the United States.

We and WesternGeco each appealed the Final Judgment to the United States Court of Appeals for the Federal Circuit in Washington, D.C. On July 2, 2015, the Court of Appeals reversed in part the Final Judgment, holding the district court erred by including lost profits in the Final Judgment. Lost profits were $93.4 million and prejudgment interest on the lost profits was approximately $10.9 million of the $123.8 million Final Judgment award. Pre-judgment interest on the lost profits portion will be treated in the same way as the lost profits. Post-judgment interest will likewise be treated in the same fashion. On July 29, 2015, WesternGeco filed a petition for rehearing en banc before the Court of Appeals. On October 30, 2015, the Court of Appeals denied WesternGeco's petition for rehearing en banc. WesternGeco has up to 90 days to determine whether or not it will file a writ of certiorari requesting that the U.S. Supreme Court review the Court of Appeals' decision. On January 14, 2016, WesternGeco filed a motion to extend until February 26, 2016 the period of time it has to file a writ of certiorari requesting that the U.S. Supreme Court review the Court of Appeals' decision. WesternGeco has also filed a motion requesting that the district court enforce the approximately $22.0 million in royalty damages without regard to whether or not WesternGeco files a writ of certiorari with the U.S. Supreme Court. We have opposed the motion and it has not yet been scheduled for a hearing.

As previously disclosed, we had previously taken a loss contingency accrual of $123.8 million. As a result of the reversal by the Court of Appeals, as of June 30, 2015, we reduced our loss contingency accrual to its current amount of $22.0 million. Our assessment of our potential loss contingency may change in the future due to developments in the case and other events, such as changes in applicable law, and such reassessment could lead to the determination that no loss contingency is probable or that a greater or lesser loss contingency is probable. Any such reassessment could have a material effect on our financial condition or results of operations.

In order to stay the judgment during the appeal, we arranged with sureties to post an appeal bond with the trial court on our behalf in the amount of $120.0 million. The terms of the appeal bond arrangements provide the sureties the contractual right for as long as the bond is outstanding to require us to post cash collateral for up to the full amount of the bond. If the sureties exercise their right to require collateral while the appeal bond is outstanding, we would intend to utilize a combination of cash on hand and undrawn balances available under our Credit Facility (as defined below). If we are required to collateralize the full amount of the bond, we might also seek additional debt and/or equity financing. The collateralization of the full amount of the bond could have a material adverse effect on our liquidity. Any requirement that we collateralize the appeal bond will

reduce our liquidity and may reduce the borrowings otherwise available under our Credit Facility. No assurances can be made whether our efforts to raise additional cash would be successful and, if so, on what terms and conditions, and at what cost we might be able to secure any such financing. We have received a request for $11.0 million in collateral, and negotiations with the sureties regarding the request are ongoing. For additional discussion about our liquidity related to posting an appeal bond, see Item 7. “Management’s Discussion and Analysis of Financial Condition and Results of Operations - Meeting our Liquidity Requirements - Loss Contingency - WesternGeco Lawsuit” in Part II of this Form 10-K.

Other Litigation

We have been named in various other lawsuits or threatened actions that are incidental to our ordinary business. Litigation is inherently unpredictable. Any claims against us, whether meritorious or not, could be time-consuming, cause us to incur costs and expenses, require significant amounts of management time and result in the diversion of significant operational resources. The results of these lawsuits and actions cannot be predicted with certainty. We currently believe that the ultimate resolution of these matters will not have a material adverse effect on our financial condition or results of operations.

Item 4. Mine Safety Disclosures

Not applicable.

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PART II

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

Our common stock trades on the New York Stock Exchange (“NYSE”) under the symbol “IO.” The following table sets forth the high and low sales prices of the common stock for the periods indicated, as reported in NYSE composite tape transactions as adjusted for the one-for-fifteen reverse stock split completed on February 4, 2016.

Period	Price Range High [(1)]	Low [(1)]
Year ended December 31, 2015:		
Fourth Quarter	$12.15	$3.90
Third Quarter	21.75	5.55
Second Quarter	37.20	15.60
First Quarter	43.05	31.50
Year ended December 31, 2014:		
Fourth Quarter	$45.30	$34.35
Third Quarter	65.40	41.85
Second Quarter	70.95	57.75
First Quarter	68.10	42.30

(1) The high and low sales prices set forth in the table above have been retroactively adjusted to reflect the one-for-fifteen reverse stock split completed on February 4, 2016.

We have not historically paid, and do not intend to pay in the foreseeable future, cash dividends on our common stock. We presently intend to retain cash from operations for use in our business, with any future decision to pay cash dividends on our common stock dependent upon our growth, profitability, financial condition and other factors our board of directors consider relevant. In addition, the terms of our Credit Facility and the indenture governing the Notes prohibit us from paying dividends on or repurchasing shares of our common stock without the prior consent of the lenders.

The terms of our Credit Facility contain covenants that restrict us from paying cash dividends on our common stock, or repurchasing or acquiring shares of our common stock, unless (i) there is no event of default under the Credit Facility, (ii) there is excess availability under the Credit Facility greater than $20.0 million (or, at the time that the borrowing base formula amount is less than $20.0 million, the borrowers’ level of liquidity (as defined in the revolving credit and security agreement) is greater than $20.0 million) and (iii) the agent receives satisfactory projections showing that excess availability under the Credit Facility for the immediately following period of ninety (90) consecutive days will not be less than $20.0 million (or, at the time that the borrowing base formula amount is less than $20.0 million, the borrowers’ level of liquidity is greater than $20.0 million). The aggregate amount of permitted cash dividends and stock repurchases may not exceed $10.0 million in any fiscal year or $40.0 million in the aggregate from and after the closing date of the Credit Facility.

The indenture governing the Notes contains certain covenants that, among other things, limit our ability to pay certain dividends or distributions on our common stock or purchase, redeem or retire shares of our common stock, unless (i) no default under the indenture has occurred or would occur as a result of that payment, (ii) we would have, after giving pro forma effect to the payment, been permitted to incur at least $1.00 of additional indebtedness under a fixed charge coverage ratio test under the indenture, and (iii) the total cumulative amount of all such payments would not exceed a sum calculated by reference to, among other items, our consolidated net income, proceeds from certain sales of equity or assets, certain conversions or exchanges of debt for equity and certain other reductions in our indebtedness and in aggregate not to exceed at any one time $25.0 million.

On December 31, 2015, there were 763 holders of record of our common stock.

On November 4, 2015, our board of directors approved a stock repurchase program authorizing us to repurchase, from time to time from November 10, 2015 through November 10, 2017, up to $25 million in shares of our outstanding common stock. The stock repurchase program may be implemented through open market repurchases or privately

negotiated transactions, at management's discretion. The actual timing, number and value of shares repurchased under the program will be determined by management at its discretion and will depend on a number of factors including the market price of the shares of our common stock and general market and economic conditions, applicable legal requirements and compliance with the terms of our outstanding indebtedness. The repurchase program does not obligate us to acquire any particular amount of common stock and may be modified or suspended at any time and could be terminated prior to completion. Since the program's inception on November 10, 2015 through February 5, 2016, we had repurchased 435,792 shares our common stock under the repurchase program at an average price per share of $6.45. The number of shares repurchased and the average price per repurchased share has been retroactively adjusted to reflect the one-for-fifteen reverse stock split completed on February 4, 2016. On February 5, 2016, the closing sale price for our common stock was $6.21 on the NYSE.

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During the three months ended December 31, 2015, we withheld and subsequently canceled shares of our common stock to satisfy minimum statutory income tax withholding obligations on the vesting of restricted stock for employees. The date of cancellation, number of shares and average effective acquisition price per share, were as follows:

Period	(a) Total Number of Shares Acquired (1)	(b) Average Price Paid Per Share (2)	(c) Total Number of Shares Purchased as Part of Publicly Announced Plans or Program	(d) Maximum Number (or Approximate Dollar Value) of Shares That May Yet Be Purchased Under the Plans or Program
October 1, 2015 to October 31, 2015	—	$—	Not applicable	Not applicable
November 1, 2015 to November 30, 2015	—	$—	Not applicable	Not applicable
December 1, 2015 to December 31, 2015	2,705	$8.40	Not applicable	Not applicable
Total	2,705	$8.40		

(1) The numbers of shares set forth in the table above have been retroactively adjusted to reflect the one-for-fifteen reverse stock split completed on February 4, 2016.
(2) The average prices paid per share set forth in the table above have been retroactively adjusted to reflect the one-for-fifteen reverse stock split completed on February 4, 2016.

Item 6. Selected Financial Data

Special Items Affecting Comparability

The selected consolidated financial data set forth below under "Historical Selected Financial Data" with respect to our consolidated statements of operations for 2015, 2014, 2013, 2012 and 2011, and with respect to our consolidated balance sheets at December 31, 2015, 2014, 2013, 2012 and 2011, have been derived from our audited consolidated financial statements.

Our results of operations and financial condition have been affected by restructuring activities, legal contingencies and settlements, dispositions, debt refinancings and impairments and write-downs of assets during the periods presented, which affect the comparability of the financial information shown. In particular, our results of operations for the years in the 2011 – 2015 time period were impacted by the following items (before tax):

	Years Ended December 31,				
	2015	2014	2013	2012	2011
	(In thousands)				
Cost of sales:					
Write-down of multi-client data library	$(399)	$(100,100)	$(5,461)	$—	$—
Write-down of excess and obsolete inventory	$(151)	$(6,952)	$(21,197)	$(1,326)	$—
Operating expenses:					
Impairment of goodwill and intangible assets	$—	$(23,284)	$—	$—	$—
Write-down of receivables	$—	$(8,214)	$(9,157)	$(5,640)	$—
Write-down of marine equipment	$—	$—	$—	$(5,928)	$—
Other income (expense):					
Reversal of (accrual for) loss contingency related to legal proceedings	$101,978	$69,557	$(183,327)	$(10,000)	$—
Gain on sale of Source product line	$—	$6,522	$—	$—	$—
Gain on sale of cost method investments	$—	$5,463	$3,591	$—	$—
Gain on legal settlements	$—	$—	$—	$30,895	$—
Equity in earnings (losses) of investments	$—	$(49,485)	$(42,320)	$297	$(22,862)
Conversion payment of preferred stock	$—	$—	$(5,000)	$—	$—

The historical selected financial data shown below should not be considered as being indicative of future operations, and should be read in conjunction with Item 7. “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and the consolidated financial statements and the notes thereto included elsewhere in this Form 10-K.

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Historical Selected Financial Data

	Years Ended December 31,				
	2015	2014	2013	2012	2011
	(In thousands, except for per share data)				
Statement of Operations Data:					
Net revenues	$221,513	$509,558	$549,167	$526,317	$454,621
Gross profit	8,003	62,223	159,313	215,801	173,445
Income (loss) from operations	(100,632)	(117,929)	16,396	74,527	66,795
Net income (loss) applicable to common shares [1]	(25,122)	(128,252)	(251,874)	61,963	23,422
Net income (loss) per basic share [1]	$(2.29)	$(11.72)	$(23.84)	$5.97	$2.27
Net income (loss) per diluted share [1]	$(2.29)	$(11.72)	$(23.84)	$5.71	$2.25
Weighted average number of common shares outstanding [2]	10,957	10,939	10,567	10,387	10,321
Weighted average number of diluted shares outstanding [2]	10,957	10,939	10,567	10,851	10,406
Balance Sheet Data (end of year):					
Working capital	$93,160	$222,099	$248,857	$164,693	$163,677
Total assets	438,416	617,257	864,671	820,583	674,058
Long-term debt	186,320	190,594	220,152	105,328	105,112
Total equity	112,040	135,712	257,885	499,019	425,812
Other Data:					
Investment in multi-client library	$45,558	$67,785	$114,582	$145,627	$143,782
Capital expenditures	19,241	8,264	16,914	16,650	11,060
Depreciation and amortization (other than multi-client library)	26,527	27,656	18,158	16,202	13,917
Amortization of multi-client library	35,784	64,374	86,716	89,080	77,317

(1) The per share calculations set forth in the table above have been retroactively adjusted to reflect the one-for-fifteen reverse stock split completed on February 4, 2016.
(2) The share numbers set forth in the table above have been retroactively adjusted to reflect the one-for-fifteen reverse stock split completed on February 4, 2016.

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

Note: The following should be read in conjunction with our Consolidated Financial Statements and related Footnotes to Consolidated Financial Statements that appear elsewhere in this Annual Report on Form 10-K. References to “Footnotes” in the discussion below refer to the numbered Footnotes to Consolidated Financial Statements.

Executive Summary

Our Business

The terms “we,” “us” and similar or derivative terms refer to ION Geophysical Corporation and its consolidated subsidiaries, except where the context otherwise requires or as otherwise indicated.

We are a global, technology-focused company that provides geophysical technology, services and solutions to the global oil and gas industry. We provide our services and products through four business segments – Solutions, Software, Systems and Ocean Bottom Services (the segment name for OceanGeo) – as well as through our INOVA Geophysical joint venture.

For a full discussion of our business, see Part I, Item 1. “Business.”

Macroeconomic Conditions

Demand for our services and products is cyclical and dependent upon activity levels in the oil and gas industry, particularly our customers’ willingness to invest capital in the exploration for oil and natural gas. Our customers’ capital spending programs are generally based on their outlook for near-term and long-term commodity prices, economic growth, commodity demand and estimates of resource production. As a result, demand for our services and products is largely sensitive to expected commodity prices, principally related to crude oil and natural gas.

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In 2013 continuing through 2015 we started seeing decreased spending on exploration by E&P companies, which were reportedly focusing more of their current spending towards production optimization of existing assets. We believe this was due to several factors, but primarily because operational cash flows of E&P companies were no longer sufficient to cover capital expenditures and cash was continuing to be paid to shareholders in the form of dividends. E&P companies have been relying on asset sales and debt financings to fund capital requirements amid demands for greater returns to shareholders.

After a period of exploration-focused activities by E&P companies leading up to the fourth quarter of 2014, many E&P companies turned their focus more to production activities and less on exploration of prospects during 2015 as the continued decline in oil and gas prices resulted in decreasing revenues and prompted cost reduction initiatives across the industry. The World Bank recently lowered its 2016 forecast for crude oil prices to $37 per barrel from its previous expectation of $51 per barrel. One recent survey indicated that upstream oil and gas companies plan to reduce spending by 15% globally in 2016, following a 23% decline in 2015, representing only the second time spending has declined in consecutive years since 1986 and 1987. As of December 31, 2015, our Solutions segment backlog, consisting of commitments for data processing work and for underwritten multi-client new venture and proprietary projects by our Ventures group, was 59% less than our backlog existing as of December 31, 2014. Investments in our multi-client data library are dependent upon the timing of our new ventures projects and the availability of underwriting by our customers. Our asset light strategy enables us to scale our business to avoid significant fixed costs and to remain financially flexible as we manage the timing and levels of our capital expenditures.

E&P companies use their cash flow from operations to reinvest in productive assets through capital expenditures, build surplus cash for eventual downturns, or return cash to stakeholders. Due to increasing exploration and production costs, free cash flow at E&P companies as a whole had generally decreased over the last several years. By 2013, the combination of these factors led many E&P companies to a position where they have been unable to cover both their capital expenditure budgets and targeted cash returns to shareholders. As a result, E&P companies have turned their focus to spending reductions, with exploration spending receiving the largest reductions and seismic spending being one of the most discretionary parts of their exploration budgets.

Similar to ION, many seismic industry participants have been reporting lower year-over-year revenue, and decreased funding levels for contract and multi-client exploration activities.

The following is a summary of recent oil and gas pricing trends:

	Brent Crude (per bbl)		West Texas Intermediate Crude (per bbl)		Henry Hub Natural Gas (per mcf)	
Quarter ended	High	Low	High	Low	High	Low
12/31/2015	$52.13	$35.26	$49.67	$34.55	$2.54	$1.63
9/30/2015	$61.73	$41.59	$56.94	$38.22	$2.93	$2.47
6/30/2015	$66.33	$55.73	$61.36	$49.13	$3.04	$2.50
3/31/2015	$61.89	$45.13	$53.56	$43.39	$3.32	$2.62
12/31/2014	$94.57	$55.27	$91.01	$53.27	$4.49	$2.89
9/30/2014	$110.84	$94.53	$105.34	$91.16	$4.46	$3.75
6/30/2014	$115.19	$103.37	$107.26	$99.42	$4.83	$4.28
3/31/2014	$111.26	$105.73	$104.92	$91.66	$6.15	$4.01

Source: U.S. Energy Information Administration (EIA).

In the past few years, crude oil prices have been volatile due to global economic uncertainties. Significant downward crude oil price volatility began in the fourth quarter of 2014 and prices continued to drop throughout the remainder of 2014 and into 2015, with a brief, partial recovery during the second quarter of 2015 followed by a continued decline in oil prices during the third and fourth quarters. The material decrease in crude oil prices can be attributed principally to significant production growth in the U.S. shale plays, strengthening of the U.S. dollar relative to other foreign currencies, the increase in production by Organization of Petroleum Exporting Countries (“OPEC”) and its indication not to cut production, offset somewhat by modest increases in global oil demand. During the fourth quarter of 2015,

crude oil prices continued to decline due to ongoing concerns about the Chinese economy as well as the potential supply increases related to the lifting of sanctions against Iran. In addition, the U.S. Congress recently lifted the 40-year-old ban on the export of crude oil. These events have created concern in the marketplace that crude oil prices will trade in a relatively low-priced range for the foreseeable future. The average prices for West Texas Intermediate ("WTI") and Intercontinental Exchange Brent ("Brent") crude oil decreased from an average of $72 per barrel and $75 per barrel, respectively, in the fourth quarter of 2014 to an average of $42 per barrel and $44 per barrel, respectively, in the fourth quarter of 2015. These data points compare to an average price of $100 per barrel and $107 per barrel, respectively, in the first nine months of 2014.

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Given the historical volatility of crude prices, there remains a risk that prices could continue to deteriorate due to high levels of domestic and OPEC crude oil production, slowing growth rates in various global regions and/or the potential for ongoing supply/demand imbalances. Alternatively, if the global supply of oil were to decrease due to reduced capital investment by our E&P customers or government instability in a major oil-producing nation and energy demand continues to increase in the U.S. and countries such as China and India, a recovery in WTI and Brent crude oil prices could occur. Regardless of the driver, crude oil price improvements will not occur without a rebalancing of global supply and demand, the timing of which is difficult to predict. If commodity prices do not improve or if they decline further, demand for our services and products could continue to decline.

Prices for natural gas in the U.S. averaged $2.09 per mmBtu in the fourth quarter of 2015 compared to $3.69 per mmBtu in the fourth quarter of 2014 and $4.57 per mmBtu in the first nine months of 2014. Natural gas prices declined due to strong production and the recent mild winter this year as compared to last year resulting in significant increases in natural gas inventories in the U.S. during 2015, from 1% below the five-year average as of the end of 2014 to 14% above the five year average this year. Customer spending in the natural gas shale plays has been limited due to associated gas being produced from unconventional oil wells in North America. As a result of natural gas production growth outpacing demand in the U.S., natural gas prices continue to be weak relative to prices experienced from 2006 through 2008 and are expected to remain below levels considered economical for new investments in numerous natural gas fields. If natural gas production growth continues to surpass demand in the U.S., whether the supply comes from conventional or unconventional production or associated natural gas production from oil wells, prices for natural gas could remain constrained for an extended period.

Impact to Our Business

The reductions in exploration spending have had a significant impact on our results of operations for 2015 with total revenues falling versus prior year by 57%. We have seen a continued softening of customer underwriting of our new venture programs. We continue to maintain high standards for underwriting of any new projects, and have delayed certain new venture programs that were originally planned to occur during 2015. We invested approximately $22 million less in our multi-client data library during 2015, compared to 2014.

We saw a significant slowdown in our data processing business during 2015. During the second quarter, various customers delayed processing projects and this trend has continued, which negatively affected our backlog. Data processing revenues were down significantly in 2015 compared to 2014, and we expect our data processing business to remain soft into 2016. During 2014 and 2015, we took measured actions to reduce our data processing cost structure.

Our business has traditionally been seasonal, with the strongest demand for our services and products often in the fourth quarter of our fiscal year. As discussed above, we have seen reduced levels of exploration-related spending by E&P companies as those companies focus more of their current spending on optimizing production of existing assets.

At December 31, 2015, our Solutions segment backlog, which consists of commitments for (i) data processing work and (ii) both multi-client new venture projects and proprietary projects underwritten by our customers, was $19.2 million, compared with $46.7 million at December 31, 2014. The decline in backlog was primarily due to (i) the softening of customer underwriting for new ventures projects and (ii) the delay of certain processing projects by customers. We anticipate that the majority of our backlog will be recognized as revenue over the first half of 2016. We also expect the recently awarded contract extension from PEMEX to contribute toward rebuilding our backlog as additional work orders under this contract extension are received.

Our Software segment revenues decreased for 2015 compared to the same period of 2014. This decline is a result of reduced activity by seismic contractors that have taken vessels out of service.

Our traditional seismic contractor customers are also experiencing weakened demand due to the reduction in seismic spend by their customers. As a result, our Systems segment continues to experience weak year-over-year sales. Our Systems segment revenues decreased primarily because of lower towed streamer products sales and a decrease in repair and replacement marine positioning equipment revenues due to vessels having been taken out of service.

In 2014, we increased our ownership in OceanGeo, our ocean bottom seismic data acquisition joint venture, from 30% to 100%. During 2015, OceanGeo's vessels were idle, causing us to cold stack the vessels and crew. OceanGeo is pursuing several tenders for long-term work in 2016.

We continue to monitor the global economy, the demand for crude oil and natural gas and the resultant impact on the capital spending plans and operations of our E&P customers in order to plan our business. We remain confident that, despite current marketplace issues that we describe above, we have positioned ourselves to take advantage of the next upturn in the energy cycle by shifting our focus towards E&P solutions and away from equipment sales, and by diversifying our offerings across the E&P lifecycle.

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It is our view that technologies that add a competitive advantage through improved imaging, cost reductions or improvements in well productivity will continue to be valued in our marketplace. We believe that our newest technologies, such as Calypso, WiBand, Orca, Narwhal, and Marlin, will continue to attract customer interest, because those technologies are designed to deliver improvements in image quality within more productive delivery systems.

Cost Reduction Initiatives

Due to the current economic conditions described above, including significant reductions in E&P capital expenditures, in 2015, we continued to implement cost cutting initiatives by (i) centralizing our global data processing capabilities to two core geographical hubs in the U.S. and the U.K., (ii) reducing our marine repair facilities to two locations in the U.S. and U.A.E., (iii) making further reductions in personnel across all of our segments that combined with reductions starting in December 2014, and continuing through 2015 have reduced our full-time employee base by approximately 50% and (iv) reducing salaries by 10% for the majority of our employees during 2015. Including actions we began taking in December 2014, we expect that these cost reduction actions will result in annualized savings of approximately $80 million. We now believe these initiatives have rightsized cost structure to reflect current revenue levels. See Footnote 2 “Impairments, Restructurings and Other Charges” of Footnotes to Consolidated Financial Statements.

Reverse Stock Split and Increase in Authorized Shares

On February 1, 2016, our stockholders approved a reverse stock split at a ratio to be selected by our Board of Directors (or any authorized committee of the Board of Directors) from within a range of between one-for-five and one-for-fifteen, inclusive, and a proportionate reduction in the number of authorized shares of our common stock by the selected reverse split ratio. On February 4, 2016, we completed a one-for-fifteen reverse stock split, and our stock began trading on a reverse-split adjusted basis on February 5, 2016. As a result of the reverse stock split, the number of issued and outstanding shares was adjusted and the number of shares underlying outstanding stock options and the related exercise prices were adjusted. Following the effective date of the reverse stock split, the par value of our common stock remained at $0.01 per share, and the number of authorized shares was reduced from 400,000,000 to 26,666,667, adjusted to reflect a one-for-fifteen reverse stock split.

On February 1, 2016, our stockholders approved an increase in the number of authorized shares of common stock from 200 million to 400 million, or 13.3 million to 26.7 million retroactively adjusted to reflect the one-for-fifteen reverse stock split.

Key Financial Metrics

Our results of operations have been materially affected by the impairments, restructuring charges and by other charges, which affect the comparability of certain of the financial information contained in this Form 10-K. In order to assist with the comparability to our historical results of operations, certain of the financial metrics tables and the discussion below exclude charges related to impairments, the restructuring and other write-downs. The gross profit (loss), income (loss) from operations, costs and expenses below that are identified as “As Adjusted” reflect the exclusion of the restructuring and other charges shown and described in the tables below. We believe that the non-GAAP presentation of results of operations excluding these items provides a more meaningful comparison of reporting periods.

The tables below provide (i) a summary of our net revenues for our company as a whole, and by segment, for 2015, 2014 and 2013, and (ii) an overview of other certain key financial metrics for our company as a whole and our four business segments on a comparative basis for 2015, 2014 and 2013, as reported and as adjusted in all three years for the restructuring and other charges recorded for those years.

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	Years Ended December 31,		
	2015	2014	2013
	(In thousands)		
Net revenues:			
Solutions:			
New Venture	$48,294	$98,649	$154,578
Data Library	63,326	66,180	111,998
Total multi-client revenues	111,620	164,829	266,576
Data Processing	45,630	113,075	120,808
Total	$157,250	$277,904	$387,384
Systems:			
Towed Streamer	$15,016	$43,995	$66,991
Ocean Bottom Equipment	—	—	7,307
Other	21,253	44,422	48,134
Total	$36,269	$88,417	$122,432
Software:			
Software Systems	$24,764	$36,203	$35,418
Services	3,230	3,790	3,933
Total	$27,994	$39,993	$39,351
Ocean Bottom Services	$—	$103,244	$—
Total	$221,513	$509,558	$549,167

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	Year Ended December 31, 2015			Year Ended December 31, 2014			Year Ended December 31,	
	As Reported	Restructuring and Other Charges	As Adjusted	As Reported	Restructuring and Other Charges	As Adjusted	As Reported	Restructurin and Other Charges
	(In thousands, except per share data)							
Gross profit:								
Solutions	$13,508	$3,193	$16,701	$(24,345)	$100,825 (c)	$76,480	$111,108	$5,461
Systems	10,829	311	11,140	29,829	7,580 (d)	37,409	19,999	25,688
Software	17,937	225	18,162	28,835	137	28,972	28,206	—
Ocean Bottom Services	(34,271)	252	(34,019)	27,904	—	27,904	—	—
Total	$8,003	$3,981 (a)	$11,984	$62,223	$108,542	$170,765	$159,313	$31,149
Gross margin:								
Solutions	9 %	2 %	11 %	(9)%	37 %	28 %	29 %	1 %
Systems	30 %	1 %	31 %	34 %	8 %	42 %	16 %	21 %
Software	64 %	1 %	65 %	72 %	— %	72 %	72 %	— %
Ocean Bottom Services	— %	— %	— %	27 %	— %	27 %	— %	— %
Total	4 %	1 %	5 %	12 %	22 %	34 %	29 %	6 %
Income (loss) from operations:								
Solutions	$(28,916)	$4,295	$(24,621)	$(80,653)	$102,740 (c)	$22,087	$61,146	$5,461
Systems	(2,735)	1,342	(1,393)	(23,521)	32,492 (d)	8,971	(9,957)	28,050
Software	9,748	448	10,196	20,212	223 (e)	20,435	23,602	—
Ocean Bottom Services	(40,756)	252	(40,504)	19,070	—	19,070	—	—
Corporate and other	(37,973)	877	(37,096)	(53,037)	6,487 (f)	(46,550)	(58,395)	9,157
Total	$(100,632)	$7,214 (a)	$(93,418)	$(117,929)	$141,942	$24,013	$16,396	$42,668
Operating margin:								
Solutions	(18)%	2 %	(16)%	(29)%	37 %	8 %	16 %	1 %
Systems	(8)%	4 %	(4)%	(27)%	37 %	10 %	(8)%	23 %
Software	35 %	1 %	36 %	51 %	— %	51 %	60 %	— %
Ocean Bottom Services	— %	— %	— %	18 %	— %	18 %	— %	— %
Corporate and other	(17)%	— %	(17)%	(10)%	1 %	(9)%	(11)%	2 %
Total	(45)%	3 %	(42)%	(23)%	28 %	5 %	3 %	8 %
Net income (loss) applicable	$(25,122)	$(93,587) (b)	$(118,709)	$(128,252)	$94,143 (g)	$(34,109)	$(251,874)	$271,208

to common shares								
Diluted net income (loss) per common share [1]	$(2.29)	$(8.54) [k]	$(10.83)	$(11.72)	$8.60 [k]	$(3.12)	$(23.84)	$25.67

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(a) Represents severance and facility charges related to the Company's 2015 restructuring.

(b) In addition to item (a), also impacting net income (loss) applicable to common shares was a reduction in the WesternGeco legal contingency by $102.0 million.

(c) Primarily relates to the write-down of our multi-client data library in 2014 and 2013 within the Solutions segment. Also, 2014 and 2015 were impacted by the impairment of intangible assets and severance-related charges.

(d) Primarily relates to the write-down of goodwill, impacting income (loss) from operations, in addition to inventory write-downs, impacting gross profit (loss), and severance-related charges within the Systems segment.

(e) Primarily relates to severance-related charges within the Software segment.

(f) Represents the write-down of receivables from INOVA Geophysical, in addition to severance related charges.

(g) In addition to items (c), (d), (e) and (f), also impacting net income (loss) applicable to common shares was (i) the full write-down of our equity method investment in INOVA Geophysical of $30.7 million, in addition to our share of charges related to excess and obsolete inventory and customer bad debts of $3.5 million, (ii) a reduction in the WesternGeco legal contingency by $69.6 million, and (iii) non-recurring gains on the sale of a cost method investment of $5.5 million and on the sale of the Source product line of $6.5 million (before tax).

(h) Represents excess and obsolete inventory and severance-related charges within the Systems segment in 2013.

(i) Represents the write-down of the carrying value of all receivables due from OceanGeo in 2013.

(j) In addition to items (c),(h) and (i), also impacting net income (loss) applicable to common shares was (i) a charge to income tax expense related to our establishing a valuation allowance on our net deferred tax assets, (ii) a third quarter payment made to the holder of our outstanding Series D Preferred Stock in connection with the holder's conversion of the Series D Preferred Stock, (iii) our additional loss contingency accrual related to the WesternGeco legal proceedings, (iv) $18.8 million representing ION's 49% share of restructuring charges within the INOVA joint venture, associated with the impairment of intangible assets, write-down of excess and obsolete inventory and rental equipment, and severance-related charges, and (v) $12.5 million representing losses incurred as a result of ION taking a larger ownership position in OceanGeo.

(k) The per share calculations in the table above have been retroactively adjusted to reflect the one-for-fifteen reverse stock split completed on February 4, 2016.

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We intend that the following discussion of our financial condition and results of operations will provide information that will assist in understanding our consolidated financial statements, the changes in certain key items in those financial statements from year to year, and the primary factors that accounted for those changes.

We account for our 49% interest in INOVA Geophysical as an equity method investment and record our share of earnings (losses) of INOVA Geophysical on a one fiscal quarter lag basis. During 2014, we wrote our in investment in INOVA Geophysical down to zero, and therefore we ceased recording losses in 2015. For, 2014 and 2013, we recognized in our consolidated results of operations our share of earnings (losses) in INOVA Geophysical of approximately $(19.5) million and (excluding the write-down of our investment in INOVA), $(22.5) million, respectively.

Prior to our acquisition of a controlling interest in OceanGeo in January 2014, we accounted for our interest in OceanGeo as an equity method investment and recorded our share of earnings of OceanGeo on a then current quarter basis. In February 2014, we began to consolidate the results of OceanGeo.

For a discussion of factors that could impact our future operating results and financial condition, see Item 1A. "Risk Factors" above.

Results of Operations

Year Ended December 31, 2015 (As Adjusted) Compared to Year Ended December 31, 2014 (As Adjusted)

Our total net revenues of $221.5 million for 2015 decreased $288.1 million, or 57%, compared to total net revenues for 2014. Our overall gross profit percentage for 2015 was 5%, as adjusted, compared to 2014's gross profit percentage of 34%, as adjusted. Total operating expenses, as adjusted, as a percentage of net revenues for 2015 and 2014 were 48% and 29%, respectively. During 2015, loss from operations of $93.4 million, as adjusted, compared to income of $24.0 million, as adjusted, for 2014.

Our net loss for 2015 was $118.7 million, as adjusted, or $(10.83) per share, compared to net loss of $34.1 million, as adjusted, or $(3.12) per share for 2014. As noted above, net loss for 2015 and 2014 included restructuring and other credits (charges) totaling $93.6 million and ($94.1) million, respectively, impacting our earnings per share by $(8.54) and $8.60, respectively. The per share calculations have been retroactively adjusted to reflect the one-for-fifteen reverse stock split completed on February 4,2016.

Net Revenues, Gross Profits and Gross Margins (As Adjusted)

Solutions — Net revenues for 2015 decreased by $120.6 million, or 43%, to $157.3 million, compared to $277.9 million for 2014. Revenues for our multi-client businesses within Solutions decreased due to the continued softness of exploration spending.

Gross profit decreased by $59.8 million to $16.7 million, as adjusted, representing a 11% gross margin, compared to $76.5 million, as adjusted, or a 28% gross margin, for 2014. This decrease was attributable to the significant revenue decline in our multi-client and data processing businesses in 2015.

Systems — Net revenues for 2015 decreased by $52.1 million, or 59%, to $36.3 million, compared to $88.4 million for 2014. This decrease in revenues was principally due to (i) lower sales of new marine positioning products; (ii) lower marine and replacement revenues on existing equipment; and (iii) lower geophone string sales. Gross profit for 2015 decreased by $26.3 million to $11.1 million, as adjusted, representing a 31% gross margin, compared to $37.4 million, as adjusted, or a 42% gross margin, for 2014. Gross profit and gross margin decreased due to the significant reduction in revenues in 2015 compared to 2014.

Software — Net revenues for 2015 decreased by $12.0 million, or 30%, to $28.0 million, compared to $40.0 million for 2014. This decrease in revenues was due to record revenue quarters in the first half of 2014 followed by a reduction in Orca licensing revenues during 2015, due to reduced activity by seismic contractors that have taken vessels out of service. Gross profit for 2015 decreased by $10.8 million to $18.2 million, as adjusted, representing a 65% gross margin, compared to $29.0 million, for 2014, which represented a 72% gross margin. Gross margin decreased due to the decline in revenues in 2015.

Ocean Bottom Services — There were no net revenues or gross margin for 2015, compared to net revenues of $103.2 million and gross margins 27% for 2014, due to OceanGeo's crew being idle during 2015.

Operating Expenses (As Adjusted)

The following table presents the “As Adjusted” in both 2015 and 2014, excluding special charges that resulted from both the 2015 and 2014 restructurings and other write-downs (in thousands):

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	Year Ended December 31, 2015			Year Ended December 31, 2014		
	As Reported	Special Items[(a)]	As Adjusted	As Reported	Special Items[(b)]	As Adjusted
Operating expenses:						
Research, development and engineering	$26,445	$(603)	$25,842	$41,009	$(572)	$40,437
Marketing and sales	30,493	(304)	30,189	39,682	(326)	39,356
General, administrative and other operating expenses	51,697	(2,326)	49,371	76,177	(9,218)	66,959
Impairment of goodwill and intangible assets	—	—	—	23,284	(23,284)	—
Total operating expenses	$108,635	$(3,233)	$105,402	$180,152	$(33,400)	$146,752
Income (loss) from operations	$(100,632)	$7,214	$(93,418)	$(117,929)	$141,942	$24,013

(a) Includes severance affecting operating expenses and facility abandonment charges.

(b) Includes (i) the write-down of goodwill related to our Marine Systems reporting unit, (ii) the write-down of intangible assets, (iii) the write-down of receivables related to INOVA Geophysical and other customer bad debt, and (iv) severance charges affecting operating expense lines.

Research, Development and Engineering — Research, development and engineering expense decreased $14.6 million, or 36%, to $25.8 million, as adjusted, for 2015, compared to $40.4 million, as adjusted, for 2014. This decrease was primarily due to cost cutting measures in order to right-size the business to current revenue levels.

Marketing and Sales — Marketing and sales expense decreased $9.2 million, or 23%, to $30.2 million, as adjusted, for 2015, compared to $39.4 million, as adjusted, for 2014. This decrease was primarily due to cost cutting measures in order to right-size the business to current revenue levels.

General, Administrative and Other Operating Expenses — General, administrative and other operating expenses decreased $17.6 million, or 23%, to $49.4 million, as adjusted, for 2015 compared to $67.0 million, as adjusted, for 2014. This decrease was primarily due to cost cutting measures in order to right-size the business to current revenue levels.

Other Items

Interest Expense, net — Interest expense, net, of $18.8 million for 2015 decreased compared to $19.4 million for 2014. For additional information, please refer to "— Liquidity and Capital Resources — Sources of Capital" below.

Equity in Losses of Investments — We account for our investment in INOVA Geophysical as an equity method investment.

We record our share of earnings and losses of our 49% interest in INOVA Geophysical on a one fiscal quarter lag basis. On December 31, 2014 we wrote down our investment in INOVA Geophysical to zero, therefore we ceased recording losses in 2015.

Other Income (Expense) — Other income for 2015 was $98.3 million compared to other income of $79.9 million for 2014. The difference primarily relates to changes in our accrual for loss contingency related to a legal matter. See further discussion at Footnote 7 "Legal Matters" and in Part 1, Item 3, "Legal Proceedings."

The following table reflects the significant items of other income (expense) (in thousands):

	Years Ended December 31,	
	2015	2014
Reduction of loss contingency related to legal proceedings (Footnote 7)	$101,978	$69,557
Gain on sale of a product line[(1)]	—	6,522
Gain on sale of a cost method investment[(2)]	—	5,463
Other expense	(3,703)	(1,682)
Total other income (expense)	$98,275	$79,860

(1) In 2014, we sold our Source product line for approximately $14.4 million, net of transaction fees, recording a gain of approximately $6.5 million before taxes. The historical results of this product line have not been material to our results of operations.

(2) Includes the 2014 sale of our cost method investment in a privately-owned U.S.-based technology company for total proceeds of approximately $16.5 million, of which $14.1 million was due and paid at closing.

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Income Tax Expense — Income tax expense for 2015 was $4.0 million compared to $20.6 million for 2014. Our effective tax rates for 2015 and 2014 were (19.2)% and (19.2)%, respectively. Our effective tax rate for 2015 was negatively impacted by the establishment of a valuation allowance related to our U.S. losses incurred in 2015. See further discussion of establishment of the deferred tax valuation allowance at Footnote 6 “Income Taxes” of Footnotes to Consolidated Financial Statements. Our income tax expense for 2015 relates to income from our non-U.S. businesses. This foreign tax expense has not been offset by the tax benefits on losses within the U.S. and other jurisdictions, from which we cannot currently benefit.

Results of Operations

Year Ended December 31, 2014 (As Adjusted) Compared to Year Ended December 31, 2013 (As Adjusted)

Our total net revenues of $509.6 million for 2014 decreased $39.6 million, or 7%, compared to total net revenues for 2013. Our overall gross profit percentage for 2014 was 34%, as adjusted, compared to a gross profit percentage of 35% for 2013, as adjusted. Total operating expenses, as adjusted, as a percentage of net revenues for 2014 and 2013 were 29% and 24%, respectively. During 2014, income from operations of $24.0 million, as adjusted, compared to $59.1 million, as adjusted, for 2013.

Net loss for 2014 was $34.1 million, as adjusted, or $(3.12) per share, compared to net income of $19.3 million, as adjusted, or $1.83 per diluted share for 2013. As noted above, net loss for 2014 and 2013 included restructuring and other charges totaling $94.1 million and $271.2 million, respectively, impacting our diluted earnings per share by $8.60 and $25.67, respectively. The per share calculations above have been retroactively adjusted to reflect the one-for-fifteen reverse stock split completed on February 4, 2016.

Net Revenues, Gross Profits and Gross Margins (As Adjusted)

Solutions — Net revenues for 2014 decreased by $109.5 million, or 28%, to $277.9 million, compared to $387.4 million for 2013. Revenues for our multi-client businesses within Solutions decreased due to (i) the continued softness of exploration spending and (ii) record data library sales in the fourth quarter of 2013 that were not repeated in 2014. Data processing revenues were also impacted by the softness in exploration spending, but benefited by $15.0 million of revenues recognized in the first quarter 2014 that related to work performed for a customer in 2013.

Gross profit decreased by $40.1 million to $76.5 million, as adjusted, representing a 28% gross margin, compared to $116.6 million, as adjusted, or a 30% gross margin, for 2013. This decrease was attributable to the significant revenue decline in our multi-client businesses in 2014, which was partially offset by the inclusion of $15.0 million of revenues recognized in the first quarter of 2014 that related to work performed for a customer in 2013.

Systems — Net revenues for 2014 decreased by $34.0 million, or 28%, to $88.4 million, compared to $122.4 million for 2013. This decrease in revenues was principally due to (i) lower sales of new marine positioning products; (ii) a lack of ocean bottom cable systems sales in 2014; (iii) lower geophone string sales; partially offset by (iv) additional marine repair and replacement revenues in 2014 versus 2013. Gross profit for 2014 decreased by $8.3 million to $37.4 million, as adjusted, representing a 42% gross margin, compared to $45.7 million, as adjusted, or a 37% gross margin, for 2013. Gross profit decreased in line with the decrease in revenues. Gross margin increased primarily due to cost savings from the restructuring in 2013 that took full effect in 2014 and to a lesser extent on a change in sales mix to higher margin repair and replacement business.

Software — Net revenues for 2014 increased by $0.6 million, or 2%, to $40.0 million, compared to $39.4 million for 2013. This increase in revenues was due to record revenue quarters in the first half of 2014, which was mostly offset by a reduction in revenues in the fourth quarter. Gross profit for 2014 increased by $0.8 million to $29.0 million, as adjusted, representing a 72% gross margin, compared to $28.2 million, for 2013, which represented a 72% gross margin. Gross profit increased slightly and is primarily due to recent fluctuations in the U.K. Pound Sterling relative to the U.S. Dollar.

Ocean Bottom Services — Net revenues for 2014 were $103.2 million and gross profit was $27.9 million, representing a 27% gross margin. During 2014, we established a new operating segment through the acquisition of OceanGeo. In February, we began consolidating OceanGeo upon acquiring a controlling interest and therefore have included OceanGeo revenues and gross profit for 2014 related to projects completed in Trinidad and West Africa. In 2013, OceanGeo was an equity-method investment and not a consolidated subsidiary. Therefore, our share of OceanGeo’s results of operations were recorded as equity in income (losses) of investment. See “Other Items — Equity in Losses of

Investments” below.

Operating Expenses (As Adjusted)

The following table presents the “As Adjusted” in both 2014 and 2013, excluding special charges that resulted from both the 2014 and 2013 restructurings and other write-downs (in thousands):

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	Year Ended December 31, 2014			Year Ended December 31, 2013		
	As Reported	Special Items[(a)]	As Adjusted	As Reported	Special Items[(b)]	As Adjusted
Operating expenses:						
Research, development and engineering	$41,009	$(572)	$40,437	$37,742	$(1,388)	$36,354
Marketing and sales	39,682	(326)	39,356	38,583	(277)	38,306
General, administrative and other operating expenses	76,177	(9,218)	66,959	66,592	(9,854)	56,738
Impairment of goodwill and intangible assets	23,284	(23,284)	—	—	—	—
Total operating expenses	$180,152	$(33,400)	$146,752	$142,917	$(11,519)	$131,398
Income (loss) from operations	$(117,929)	$141,942	$24,013	$16,396	$42,668	$59,064

(a) Includes (i) the write-down of goodwill related to our Marine Systems reporting unit, (ii) the write-down of intangible assets, (iii) the write-down of receivables related to INOVA Geophysical and other customer bad debt, and (iv) severance charges affecting operating expense lines.

(b) Includes (i) the write-down of the remaining carrying value of our receivables from OceanGeo, and (ii) restructuring charges affecting the operating expense lines.

Research, Development and Engineering — Research, development and engineering expense increased $4.0 million, or 11%, to $40.4 million, as adjusted, for 2014, compared to $36.4 million, as adjusted, for 2013. This increase was due to increased investment in our Calypso ocean bottom cable system to be used in OBS data acquisition services by OceanGeo.

Marketing and Sales — Marketing and sales expense increased $1.1 million, or 3%, to $39.4 million, as adjusted, for 2014, compared to $38.3 million, as adjusted, for 2013. This increase was primarily due to an increase in marketing and sales personnel in our Solutions segment.

General, Administrative and Other Operating Expenses — General, administrative and other operating expenses increased $10.3 million, or 18%, to $67.0 million, as adjusted, for 2014, compared to $56.7 million, as adjusted, for 2013. This increase was primarily related to the consolidation of general and administrative expenses incurred at OceanGeo.

Other Items

Interest Expense, net — Interest expense, net, of $19.4 million for 2014 increased compared to $12.3 million for 2013. This increase is directly related to the issuance of the Notes in May 2013 compared to a full year of interest on the Notes in 2014. For additional information, please refer to "— Liquidity and Capital Resources — Sources of Capital" below.

Equity in Losses of Investments — We account for our investment in INOVA Geophysical as an equity method investment.

Prior to 2015, we recorded our share of earnings and losses of our 49% interest in INOVA Geophysical on a one fiscal quarter lag basis. Thus, our share of INOVA Geophysical's earnings (losses) for the periods from October 1, 2013 to September 30, 2014 ("Fiscal 2014") and from October 1, 2012 to September 30, 2013 ("Fiscal 2013") were included in our consolidated financial results for fiscal 2014 and fiscal 2013, respectively. For 2014, we recorded our 49% share of equity in INOVA Geophysical's losses of approximately $50.2 million (including (i) $3.5 million representing our share of charges associated with the write-down of excess and obsolete inventory and certain receivables and (ii) the $30.7 million write-down of our equity interest in INOVA Geophysical to zero). For 2013, we recorded our 49% share in INOVA Geophysical's losses of approximately $22.5 million (including $18.8 million representing our share of several restructuring charges and write-downs of excess and obsolete inventory). Results for Fiscal 2014 were primarily impacted by a 51% decrease in sales during twelve months ended September 30, 2014 as a result of (i) the soft land seismic market caused by the reduction in exploration spending by E&P companies and (ii) reduced purchases by BGP. For a discussion of the impairment of our equity method investment in INOVA, see Footnote 5

"Equity Method Investments" of Footnotes to Consolidated Financial Statements contained elsewhere in this Annual Report on Form 10-K.

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The following table reflects the summarized financial information for INOVA Geophysical for Fiscal 2014 and Fiscal 2013 (in thousands):

	Fiscal 2014	Fiscal 2013
Total net revenues	$89,975	$183,619
Gross profit (loss)	$247 [1]	$(1,988) [2]
Income (loss) from operations	$(34,540) [1]	$(44,463)
Net income (loss)	$(40,087)	$(46,149) [2]

(1) Impacting INOVA Geophysical's gross profit in Fiscal 2014, is $3.8 million of a write-down of excess and obsolete inventory. In addition to the special item impacting gross profit (loss), income (loss) from operations was also impacted by $3.4 million of charges related to customer bad debts.

(2) Impacting INOVA Geophysical's gross profit in Fiscal 2013, is $36.5 million of restructuring and special items associated with the impairment of intangible assets, write-down of excess and obsolete inventory and rental equipment, and severance-related charges. In addition to the restructuring and special items impacting gross profit, net income (loss) was also impacted by $1.8 million of other restructuring and special items.

For the period of January 1 to January 26, 2014, we accounted for our equity interest in OceanGeo as an equity method investment. For that period, our share of OceanGeo's earnings was $0.7 million. Following our acquisition of a controlling interest in OceanGeo on January 27, 2014, OceanGeo's results of operations are consolidated into our results of operations. For additional information about the acquisition of OceanGeo, see Footnote 3 "Acquisition of OceanGeo" of Footnotes to Consolidated Financial Statements. In 2013, we recorded our share of equity in OceanGeo's losses of approximately $19.8 million.

Other Income (Expense) — Other income for 2014 was $79.9 million compared to other expense of $182.5 million for 2013. The difference primarily relates to changes in our accrual for loss contingency related to a legal matter. See further discussion at Footnote 7 "Legal Matters" and in Part 1, Item 3, "Legal Proceedings."

The following table reflects the significant items of other income (expense) (in thousands):

	Years Ended December 31,	
	2014	2013
Reduction of (accrual for) loss contingency related to legal proceedings (Footnote 7)	$69,557	$(183,327)
Gain on sale of a product line[1]	6,522	—
Gain on sale of a cost method investment[2]	5,463	3,591
Other expense	(1,682)	(2,794)
Total other income (expense)	$79,860	$(182,530)

(1) In 2014, we sold our Source product line for approximately $14.4 million, net of transaction fees, recording a gain of approximately $6.5 million before taxes. The historical results of this product line have not been material to our results of operations.

(2) Includes the 2014 sale of our cost method investment in a privately-owned U.S.-based technology company for total proceeds of approximately $16.5 million, of which $14.1 million was due and paid at closing.

Income Tax Expense — Income tax expense for 2014 was $20.6 million compared to $25.7 million for 2013. Our effective tax rates for 2014 and 2013 were (19.2)% and (11.6)%, respectively. Our effective tax rate for 2014 was negatively impacted by the establishment of a valuation allowance related to our U.S. losses incurred in 2014. See further discussion of establishment of the deferred tax valuation allowance at Footnote 8 "Income Taxes" of Footnotes to Consolidated Financial Statements. Our income tax expense for 2014 relates to income from our non-U.S. businesses, including OceanGeo. This foreign tax expense has not been offset by the tax benefits on losses within the U.S. and other jurisdictions, from which we cannot currently benefit.

Preferred Stock Dividends and Conversion Payment of Preferred Stock — On September 30, 2013, the holder of all of the outstanding shares of our Series D Preferred Stock converted all of the shares into approximately 404,338 shares of our common stock. Concurrent with the holder's conversion of its shares of Series D Preferred Stock, we paid the holder a cash payment of approximately $5.0 million, representing dividends in respect of the Preferred Stock and the estimated present value of certain future dividends in respect of the Series D Preferred Stock. As a result of the

conversion, all outstanding shares of Series D Preferred Stock were converted into shares of our common stock, and no shares of Series D Preferred Stock remain outstanding. Shares of common stock have been retroactively adjusted to reflect the one-for-fifteen reverse stock split completed on February 4, 2016.

Liquidity and Capital Resources

Sources of Capital

As of December 31, 2015, we had $84.9 million in cash on hand and an undrawn Credit Facility (as defined below) with a borrowing base of $40.0 million. Our cash requirements include our working capital requirements and cash required for our debt service payments, multi-client seismic data acquisition activities and capital expenditures. As of December 31, 2015, we had working capital of $93.2 million. Working capital requirements are primarily driven by our continued investment in our multi-client data library ($45.6 million in 2015) and, to a lesser extent, our inventory and other purchase obligations. At December 31, 2015, our outstanding inventory and other purchase obligations were $3.7 million. Also, our headcount has traditionally been a significant driver of our working capital needs. Because a significant portion of our business is involved in the planning, processing and interpretation of seismic data services, one of our largest investments is in our employees, which involves cash expenditures for their salaries, bonuses, payroll taxes and related compensation expenses.

Our working capital requirements may change from time to time depending upon many factors, including our operating results and adjustments in our operating plan required in response to industry conditions, competition, acquisition opportunities and unexpected events, such as a requirement to collateralize the appeal bond for our ongoing WesternGeco litigation or to satisfy an adverse outcome in the litigation, which is further discussed at Part I, Item 3. “Legal Proceedings.” In recent years, our primary sources of funds have been cash flows generated from our operations, our existing cash balances, debt and equity issuances and borrowings under our revolving credit facilities.

Revolving Credit Facility, — In August 2014, ION and its material U.S. subsidiaries, ION Exploration Products (U.S.A.), Inc., I/O Marine Systems, Inc. and GX Technology Corporation (collectively, the “Subsidiary Borrowers”), entered into a credit facility (the “Credit Facility”). For a complete discussion of the terms, available credit and security of this Credit Facility, see Footnote 4 “Long-Term Debt and Lease Obligations” of Footnotes to Consolidated Financial Statements.

On August 4, 2015, the Company and the Subsidiary Borrowers amended the terms of the Credit Facility pursuant to a First Amendment to Revolving Credit and Security Agreement dated effective as of August 4, 2015 (the “First Amendment”). The First Amendment contemplated, among other things, (i) PNC Bank, National Association (“PNC”) becoming the sole lender under the Credit Facility, (ii) the reduction of the maximum amount of the revolving line of credit under the Credit Facility from $80.0 million to $40.0 million, (iii) the elimination of the requirement that the Company not exceed a maximum senior secured leverage ratio, (iv) the amendment of the borrowing base formula under the Credit Facility and (v) the removal of the accordion features under the Credit Facility.

The borrowing base under the First Amendment will increase or decrease monthly using an amended formula based on certain eligible receivables, eligible inventory and other amounts, including a percentage of the net orderly liquidation value of the Company's multi-client data library (not to exceed $15.0 million for the multi-client data library data component). At December 31, 2015, the borrowing base under the Credit Facility was $40.0 million, and there was no outstanding indebtedness under the Credit Facility.

The Credit Facility, as amended, contains covenants that, among other things, restrict the Company, subject to certain exceptions, from incurring additional indebtedness (including capital lease obligations), repurchasing equity, paying dividends or distributions, granting or incurring additional liens on the Company’s properties, pledging shares of the Company’s subsidiaries, entering into certain merger or other change-in-control transactions, entering into transactions with the Company’s affiliates, making certain sales or other dispositions of the Company’s assets, making certain investments, acquiring other businesses and entering into sale-leaseback transactions with respect to the Company’s property.

The Credit Facility, as amended, requires that ION and the Subsidiary Borrowers maintain a minimum fixed charge coverage ratio of 1.1 to 1.0 as of the end of each fiscal quarter during the existence of a covenant testing trigger event. The fixed charge coverage ratio is defined as the ratio of (i) ION’s EBITDA, minus unfunded capital expenditures made during the relevant period, minus distributions (including tax distributions) and dividends made during the relevant period, minus cash taxes paid during the relevant period, to (ii) certain debt payments made during the relevant period. A covenant testing trigger event occurs upon (a) the occurrence and continuance of an event of default under the Credit Facility or (b) the failure to maintain a measure of liquidity greater than (i) $5.0 million for five

consecutive business days or (ii) $4.0 million on any given business day. Liquidity, as defined in the Credit Facility, is the Company's excess availability to borrow ($40.0 million at December 31, 2015) plus the aggregate amount of unrestricted cash held by ION, the Subsidiary Borrowers and their domestic subsidiaries.

At December 31, 2015, we were in compliance with all of the covenants under the Credit Facility.

The Credit Facility, as amended, contains customary event of default provisions (including a "change of control" event affecting us), the occurrence of which could lead to an acceleration of the Company's obligations under the Credit Facility as amended. see Footnote 4 "Long-term Debt and Lease Obligations" of Footnotes to Consolidated Financial Statements.

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Senior Secured Second-Priority Notes — In May 2013, we sold $175.0 million aggregate principal amount of 8.125% Senior Secured Second-Priority Notes due 2018 in a private offering. The Notes are senior secured second-priority obligations, are guaranteed by our material U.S. subsidiaries: GX Technology Corporation, ION Exploration Products (U.S.A.), Inc. and I/O Marine Systems, Inc. (“the Notes Guarantors”), and mature on May 15, 2018. Interest on the Notes accrues at the rate of 8.125% per annum and is payable semiannually in arrears on May 15 and November 15 of each year during their term. In May 2014, the holders of the Notes exchanged their Notes for a like principal amount of registered Notes with the same terms.

On or after May 15, 2015, we may on one or more occasions redeem all or a part of the Notes at the redemption prices set forth below, plus accrued and unpaid interest and special interest, if any, on the Notes redeemed during the twelve-month period beginning on May 15th of the years indicated below:

Date	Percentage
2015	104.063%
2016	102.031%
2017 and thereafter	100.000%

The Indenture governing the Notes requires us to maintain compliance with various covenants. At December 31, 2015, we were in compliance with all of the covenants under the Indenture. For further information regarding the Notes, see Footnote 4 “Long-term Debt and Lease Obligations” of Footnotes to Consolidated Financial Statements.

Meeting our Liquidity Requirements

As of December 31, 2015, our total outstanding indebtedness (including capital lease obligations) was approximately $186.3 million, consisting primarily of approximately $175.0 million outstanding Notes (maturing in May 2018) and $9.8 million of capital leases. As of December 31, 2015, there was no outstanding indebtedness under our Credit Facility and the borrowing base was $40 million.

For 2015, total capital expenditures, including investments in our multi-client data library, were $64.8 million. We currently expect that our capital expenditures, including investments in our multi-client data library, will be reduced in 2016 to a range of $15 million to $35 million. Investments in our multi-client data library are dependent upon the timing of our new ventures projects and the availability of underwriting by our customers. Our OBS business will require $12 million to $15 million of capital resources to remain intact during 2016, as we work with potential customers to obtain sales. Our asset light strategy enables us to scale our business to avoid significant fixed costs and to remain financially flexible as we manage the timing and levels of our capital expenditures. In addition, we are authorized to spend the remaining $23 million for the repurchase of shares of our common through November 2017.

Subject to a requirement to collateralize the appeal bond for our ongoing WesternGeco litigation or to satisfy a payment obligation in the amount of the loss contingency we have established with respect to the litigation, we currently believe that our existing cash, cash generated from operations, our sources of working capital, and our Credit Facility will be sufficient for us to meet our anticipated cash needs for the foreseeable future. However, as set forth below, a requirement to collateralize the appeal bond or to satisfy a payment obligation with respect to the WesternGeco litigation could have a material adverse effect on our liquidity and, as a result, our business, financial condition and results of operations.

Loss Contingency — WesternGeco Lawsuit

As of December 31, 2015, we have a loss contingency of $22.0 million accrued related to the legal proceedings with WesternGeco. As described at Part I, Item 3. “Legal Proceedings,” there are possible scenarios involving an outcome in the WesternGeco lawsuit that could materially and adversely affect our liquidity. In connection with our appeal of the trial court judgment, we arranged with sureties to post an appeal bond on our behalf. The terms of the appeal bond arrangements provide the sureties the contractual right for as long as the bond is outstanding to require us to post cash collateral for up to the full amount of the bond. If the sureties exercise their right to require collateral while the appeal bond is outstanding, we intend to utilize a combination of cash on hand and undrawn balances available under our Credit Facility. We have received a request for $11.0 million in collateral and are in negotiations with the sureties regarding the request. Any requirements that we collateralize the appeal bond will reduce our liquidity and may reduce the amount otherwise available to be borrowed under our Credit Facility. If we are required to collateralize the full amount of the bond, we might also seek additional debt and/or equity financing. No assurances can be made whether

our efforts to raise additional cash would be successful and, if so, on what terms and conditions, and at what cost we might be able to secure any such financing. If additional funds are raised through the issuance of debt and/or equity securities, these securities could have rights, preferences and privileges less favorable to us than our current debt or equity securities, and the terms of these securities could impose further restrictions on our operations.

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If we are unable to raise additional capital under these circumstances or if our efforts on appeal to reverse or reduce the verdict substantially are unsuccessful, it would likely have a material adverse effect on our company and impact our ability to execute our business plan.

We may not ultimately prevail in the appeals process and we could be required to pay damages up to the amount of the loss contingency accrual plus any additional amount ordered by the court. Our assessment of our potential loss contingency may change in the future due to developments at the appellate court and other events, such as changes in applicable law, and such reassessment could lead to the determination that no loss contingency is probable or that a greater loss contingency is probable, which could have a material effect on our business, financial condition and results of operations. Amounts of estimated loss contingency accruals as disclosed in this Annual Report on Form 10-K or elsewhere are based on currently available information and involve elements of judgment and significant uncertainties. Actual losses may exceed or be considerably less than these accrual amounts.

Cash Flow from Operations

Net cash used in operating activities was $16.5 million for 2015, compared to net cash provided by operating activities of $129.8 million for 2014. The decrease in our cash flows from operations was primarily due to lower revenues in 2015 compared to 2014, from the slowdown in exploration spending as well as decreases in accounts payable accrued expenses and accrued royalties.

Net cash provided by operating activities was $129.8 million for 2014, compared to $147.6 million for 2013. The decrease in our cash flows from operations was primarily due to lower revenues in 2014 compared to 2013, partially offset by lower levels of accounts receivable and unbilled receivables.

Cash Flow Used In Investing Activities

Net cash flow used in investing activities was $63.5 million for 2015, compared to $48.8 million for 2014. The principal uses of cash in our investing activities during 2015 were $45.6 million of continued investments in our multi-client data library, $19.2 million of investments in property, plant and equipment.

Net cash flow used in investing activities was $48.8 million for 2014, compared to $159.0 million for 2013. The principal uses of cash in our investing activities during 2014 were $67.8 million of continued investments in our multi-client data library, $8.3 million of investments in property, plant and equipment and investments in and cash advances to OceanGeo totaling $3.1 million, offset by $14.4 million of net proceeds from the sale of a product line and $14.1 million of net proceeds from the sale of a cost method investment.

Cash Flow from Financing Activities

Net cash flow used in financing activities was $9.5 million for 2015, compared to $56.0 million of net cash flow provided by financing activities for 2014. The net cash flow used in financing activities during 2015 was primarily related to $7.5 million of payments on long-term debt related to equipment capital leases and $2.0 million to repurchase of common stock.

Net cash flow used in financing activities was $56.0 million for 2014, compared to $98.7 million of net cash flow provided by financing activities for 2013. The net cash flow used in financing activities during 2014 was primarily related to the $35.0 million of net repayments on our prior senior secured credit facility, $13.0 million of payments on long-term debt, and $6.0 million to purchase the remaining interest in OceanGeo.

Inflation and Seasonality

Inflation in recent years has not had a material effect on our costs of goods or labor, or the prices for our products or services. Traditionally, our business has been seasonal, with strongest demand typically in the fourth quarter of our fiscal year. We experienced increased demand in the fourth quarter of 2015 driven by increased capital expenditures from our E&P customers, consistent with our historical seasonality. However, sales in 2015 have been negatively impacted by reduced exploration spending by our E&P customers.

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Future Contractual Obligations

The following table sets forth estimates of future payments of our consolidated contractual obligations, as of December 31, 2015 (in thousands):

Contractual Obligations	Total	Less Than 1 Year	1-3 Years	3-5 Years	More Than 5 Years
Long-term debt	$175,000	$ —	$175,000	$—	$ —
Interest on long-term debt obligations	44,457	14,819	29,638	—	—
Equipment capital lease obligations	9,762	6,354	3,408	—	—
Operating leases	83,925	12,154	27,134	27,218	17,419
Purchase obligations	3,712	3,712	—	—	—
Total	$316,856	$ 37,039	$235,180	$27,218	$ 17,419

The long-term debt at December 31, 2015 included $175.0 million of principal amount of indebtedness outstanding under our Notes issued in May 2013. The $9.8 million of equipment capital lease obligations relates to Imaging's financing of computer and other equipment purchases.

The operating lease commitments at December 31, 2015 relate to our leases for certain equipment, offices, processing centers, warehouse space and seismic vessels under non-cancelable operating leases. Our purchase obligations primarily relate to our committed inventory purchase orders under which deliveries of inventory are scheduled to be made in 2016.

Critical Accounting Policies and Estimates

The preparation of consolidated financial statements in conformity with generally accepted accounting principles in the United States requires management to make choices between acceptable methods of accounting and to use judgment in making estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities, and the reported amounts of revenue and expenses. The following accounting policies are based on, among other things, judgments and assumptions made by management that include inherent risk and uncertainties. Management's estimates are based on the relevant information available at the end of each period. We believe that all of the judgments and estimates used to prepare our financial statements were reasonable at the time we made them, but circumstances may change requiring us to revise our estimates in ways that could be materially adverse to our results of operations and financial condition. We describe our significant accounting policies more fully in Footnote 1 "Summary of Significant Accounting Policies" of Footnotes to Consolidated Financial Statements.

Revenue Recognition

We derive revenue from the sale of (i) multi-client and proprietary surveys, licenses of "on-the-shelf" data libraries and imaging services, within our Solutions segment; (ii) seismic data acquisition systems and other seismic equipment within our Systems segment; (iii) seismic command and control software systems and software solutions for operations management within our Software segment; and (iv) fully-integrated OBS solutions that include survey design and planning and data acquisition within our Ocean Bottom Services segment. All revenues of the Solutions and Ocean Bottom Services segments and the services component of revenues for the Software segment are classified as services revenues. All other revenues are classified as product revenues.

Multi-Client and Proprietary Surveys, Data Libraries and Imaging Services — As our multi-client surveys are being designed, acquired or processed (referred to as the "new venture" phase), we enter into non-exclusive licensing arrangements with our customers. License revenues from these new venture survey projects are recognized during the new venture phase as the seismic data is acquired and/or processed on a proportionate basis as work is performed. Under this method, we recognize revenues based upon quantifiable measures of progress, such as kilometers acquired or days processed. Upon completion of a multi-client seismic survey, the seismic survey is considered "on-the-shelf," and licenses to the survey data are granted to customers on a non-exclusive basis. Revenues on licenses of completed multi-client data surveys are recognized when (a) a signed final master geophysical data license agreement and accompanying supplemental license agreement are returned by the customer; (b) the purchase price for the license is fixed or determinable; (c) delivery or performance has occurred; and (d) no significant uncertainty exists as to the customer's obligation, willingness or ability to pay. In limited situations, we have provided the customer with a right to exchange seismic data for another specific seismic data set. In these limited situations, we recognize revenue at the earlier of the customer exercising its exchange right or the expiration of the customer's exchange right.

We also perform seismic surveys under contracts to specific customers, whereby the seismic data is owned by those customers. We recognize revenue as the seismic data is acquired and/or processed on a proportionate basis as work is performed. We use quantifiable measures of progress consistent with our multi-client surveys.

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Revenues from all imaging and other services are recognized when persuasive evidence of an arrangement exists, the price is fixed or determinable, and collectibility is reasonably assured. Revenues from contract services performed on a dayrate basis are recognized as the service is performed.

Acquisition Systems and Other Seismic Equipment — For the sales of seismic data acquisition systems and other seismic equipment, we follow the requirements of ASC 605-10 “Revenue Recognition” and recognize revenue when (a) evidence of an arrangement exists; (b) the price to the customer is fixed and determinable; (c) collectibility is reasonably assured; and (d) the acquisition system or other seismic equipment is delivered to the customer and risk of ownership has passed to the customer, or, in the case in which a substantive customer-specified acceptance clause exists in the contract, the later of delivery or when the customer-specified acceptance is obtained

Software — For the sales of navigation, survey and quality control software systems, we follow the requirements for these transactions of ASC 985-605 “Software Revenue Recognition” (“ASC 985-605”). We recognize revenue from sales of these software systems when (a) evidence of an arrangement exists; (b) the price to the customer is fixed and determinable; (c) collectibility is reasonably assured; and (d) the software is delivered to the customer and risk of ownership has passed to the customer, or, in the limited case in which a substantive customer-specified acceptance clause exists, the later of delivery or when the customer-specified acceptance is obtained. These arrangements generally include us providing related services, such as training courses, engineering services and annual software maintenance. We allocate revenue to each element of the arrangement based upon vendor-specific objective evidence (“VSOE”) of fair value of the element or, if VSOE is not available for the delivered element, we apply the residual method.

In addition to perpetual software licenses, we offer time-based software licenses. For time-based licenses, we recognize revenue ratably over the contract term, which is generally two to five years.

Ocean Bottom Services — We recognize revenues as they are realized and earned and can be reasonably measured, based on contractual dayrates or on a fixed-price basis, and when collectability is reasonably assured. In connection with acquisition contracts, we may receive revenues for preparation and mobilization of equipment and personnel or for capital improvements to vessels. We defer the revenues earned and incremental costs incurred that are directly related to contract preparation and mobilization and recognize such revenues and costs over the primary contract term of the acquisition project. We use the ratio of square kilometers acquired as a percentage of the total square kilometers expected to be acquired over the primary term of the contract to recognize deferred revenues and amortize, in cost of services, the costs related to contract preparation and mobilization. We recognize the costs of relocating vessels without contracts to more promising market sectors as such costs are incurred. Upon completion of acquisition contracts, we recognize in earnings any demobilization fees received and expenses incurred.

Multiple-element Arrangements — When separate elements (such as an acquisition system, other seismic equipment and/or imaging and acquisition services) are contained in a single sales arrangement, or in related arrangements with the same customer, we follow the requirements of ASC 605-25 “Accounting for Multiple-Element Revenue Arrangement” (“ASC 605-25’).

This guidance requires that arrangement consideration be allocated at the inception of an arrangement to all deliverables using the relative selling price method. We allocate arrangement consideration to each deliverable qualifying as a separate unit of accounting in an arrangement based on its relative selling price. We determine selling price using VSOE, if it exists, and otherwise, third-party evidence (“TPE”). If neither VSOE nor TPE of selling price exists for a unit of accounting, we use estimated selling price (“ESP”). We generally expect that we will not be able to establish TPE due to the nature of the markets in which we compete, and, as such, we typically will determine selling price using VSOE or if not available, ESP. VSOE is generally limited to the price charged when the same or similar product is sold on a standalone basis. If a product is seldom sold on a standalone basis, it is unlikely that we can determine VSOE for the product.

The objective of ESP is to determine the price at which we would transact if the product were sold by us on a standalone basis. Our determination of ESP involves a weighting of several factors based on the specific facts and circumstances of the arrangement. Specifically, we consider the anticipated margin on the particular deliverable, the selling price and profit margin for similar products and our ongoing pricing strategy and policies.

Multi-Client Data Library

Our multi-client data library consists of seismic surveys that are offered for licensing to customers on a non-exclusive basis. The capitalized costs include the costs paid to third parties for the acquisition of data and related activities associated with the data creation activity and direct internal processing costs, such as salaries, benefits, computer-related expenses and other costs incurred for seismic data project design and management. For 2015, 2014 and 2013, we capitalized, as part of our multi-client data library, $6.1 million, $8.3 million and $2.1 million, respectively, of direct internal processing costs.

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Our method of amortizing the costs of an in-process multi-client data library (the period during which the seismic data is being acquired or processed, referred to as the "new venture" phase) consists of determining the percentage of actual revenue recognized to the total estimated revenues (which includes both revenues estimated to be realized during the new venture phase and estimated revenues from the licensing of the resulting "on-the-shelf" data survey) and multiplying that percentage by the total cost of the project (the sales forecast method). We consider a multi-client data survey to be complete when all work on the creation of the seismic data is finished and that data survey is available for licensing.

Once a multi-client data survey is completed, the data survey is considered "on-the-shelf" and our method of amortization is then the greater of (i) the sales forecast method or (ii) the straight-line basis over a four-year period. The greater amount of amortization resulting from the sales forecast method or the straight-line amortization policy is applied on a cumulative basis at the individual survey level. Under this policy, we first record amortization using the sales forecast method. The cumulative amortization recorded for each survey is then compared with the cumulative straight-line amortization. The four-year period utilized in this cumulative comparison commences when the data survey is determined to be complete. If the cumulative straight-line amortization is higher for any specific survey, additional amortization expense is recorded, resulting in the accumulated amortization being equal to the cumulative straight-line amortization for that survey. We have determined the amortization period to be four years based upon our historical experience that indicates that the majority of our revenues from multi-client surveys are derived during the acquisition and processing phases and during the four years subsequent to survey completion.

Estimated sales are determined based upon discussions with our customers, our experience and our knowledge of industry trends. Changes in sales estimates may have the effect of changing the percentage relationship of cost of services to revenue. In applying the sales forecast method, an increase in the projected sales of a survey will result in lower cost of services as a percentage of revenue and higher earnings when revenue associated with that particular survey is recognized, while a decrease in projected sales will have the opposite effect. Assuming that the overall volume of sales mix of surveys generating revenue in the period was held constant in 2015, an increase of 10% in the sales forecasts of all surveys would have decreased our amortization expense by approximately $1.6 million.

We estimate the ultimate revenue expected to be derived from a particular seismic data survey over its estimated useful economic life to determine the costs to amortize, if greater than straight-line amortization. That estimate is made by us at the project's initiation. For a completed multi-client survey, we review the estimate quarterly. If during any such review, we determine that the ultimate revenue for a survey is expected to be materially more or less than the original estimate of total revenue for such survey, we decrease or increase (as the case may be) the amortization rate attributable to the future revenue from such survey. In addition, in connection with such reviews, we evaluate the recoverability of the multi-client data library, and if required under ASC 360-10 "Impairment and Disposal of Long-Lived Assets," record an impairment charge with respect to such data. In 2014, we wrote down our multi-client data library by $100.1 million due to current market conditions. For a full discussion of impairments of our multi-client data library in 2014 and 2013, see Footnote 2 "Impairments, Restructurings and Other Charges" of Footnotes to Consolidated Financial Statements included elsewhere in this Form 10-K for additional information. There were no significant impairment charges during 2013.

Reserve for Excess and Obsolete Inventories

Our reserve for excess and obsolete inventories is based on historical sales trends and various other assumptions and judgments, including future demand for our inventory, the timing of market acceptance of our new products and the risk of obsolescence driven by new product introductions. When we record a charge for excess and obsolete inventories, the amount is applied as a reduction in the cost basis of the specific inventory item for which the charge was recorded. Should these assumptions and judgments not be realized for these or for other reasons, our reserve would be adjusted to reflect actual results. Our industry is subject to technological change and new product development that could result in obsolete inventory. Our reserve for inventory at December 31, 2015 was $24.5 million compared to $29.8 million at December 31, 2014, a decrease of $5.3 million of scrapped obsolete inventory previously reserved in our Systems business.

Goodwill and Other Intangible Assets

Goodwill is allocated to our reporting units, which is either the operating segment or one reporting level below the operating segment. For purposes of performing the impairment test for goodwill as required by ASC 350 “Intangibles — Goodwill and Other” (“ASC 350”), we established the following reporting units: Solutions, Software and Marine Systems. To determine the fair value of our reporting units, we use a discounted future returns valuation method. If we had established different reporting units or utilized different valuation methodologies, our impairment test results could differ. Additionally, we compared the sum of the estimated fair values of the individual reporting units less consolidated debt to our overall market capitalization as reflected by the our stock price.

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In accordance with ASC 350, we are required to evaluate the carrying value of our goodwill at least annually for impairment, or more frequently if facts and circumstances indicate that it is more likely than not impairment has occurred. We formally evaluate the carrying value of our goodwill for impairment as of December 31 for each of our reporting units. We first perform a qualitative assessment by evaluating relevant events or circumstances to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount. If we are unable to conclude qualitatively that it is more likely than not that a reporting unit's fair value exceeds its carrying value, then we will use a two-step quantitative assessment of the fair value of a reporting unit. If the carrying value of a reporting unit of an entity that includes goodwill is determined to be more than the fair value of the reporting unit, there exists the possibility of impairment of goodwill. An impairment loss of goodwill is measured in two steps by first allocating the fair value of the reporting unit to net assets and liabilities including recorded and unrecorded other intangible assets to determine the implied carrying value of goodwill. The next step is to measure the difference between the carrying value of goodwill and the implied carrying value of goodwill, and, if the implied carrying value of goodwill is less than the carrying value of goodwill, an impairment loss is recorded equal to the difference.

We completed our annual goodwill impairment testing as of December 31, 2015 and concluded no impairment was required. The goodwill balance as of December 31, 2015 was comprised of $23.3 million in our Software and $2.9 million in our Solutions reporting units.

In 2014, we recorded an impairment charge of $21.9 million related to our goodwill in our Marine Systems reporting unit. For goodwill testing purposes, the litigation contingency accrual of $123.8 million as of December 31, 2014 was assigned to this reporting unit. Based on this accrual and the recording of a valuation allowance on substantially all of our net deferred tax assets, this reporting unit's carrying value was negative as of December 31, 2014. The negative carrying value required us to perform Step 2 of the impairment test on Marine Systems; the test determined that the goodwill associated with the Marine Systems reporting unit was impaired. We also recorded a $1.4 million impairment of certain intangible assets related to customer relationship within our Solutions segment at December 31, 2014.

Our 2015 quantitative assessment indicated that the fair values of our Software and Solutions reporting units significantly exceeded their carrying values. Our analyses are based upon our internal operating forecasts, which include assumptions about market and economic conditions. However, if our estimates or related projections associated with the reporting units significantly change in the future, we may be required to record further impairment charges. If the operational results of our segments are lower than forecasted or the economic conditions are worse than expected, then the fair value of our segments will be adversely affected.

Our intangible assets, other than goodwill, relate to our customer relationships. We amortize our customer relationship intangible assets on an accelerated basis over a 10- to 15-year period, using the undiscounted cash flows of the initial valuation models. We use an accelerated basis as these intangible assets were initially valued using an income approach, with an attrition rate that resulted in a pattern of declining cash flows over a 10- to 15-year period. Following the guidance of ASC 360 "Property, Plant and Equipment," we review the carrying values of these intangible assets for impairment if events or changes in the facts and circumstances indicate that it is more likely than not their carrying value may not be recoverable. Any impairment determined is recorded in the current period and is measured by comparing the fair value of the related asset to its carrying value.

Similar to our treatment of goodwill, in making these assessments, we rely on a number of factors, including operating results, business plans, internal and external economic projections, anticipated future cash flows and external market data. However, if our estimates or related projections associated with the reporting units significantly change in the future, we may be required to record further impairment charges.

Deferred Tax Assets

During 2013 we established a valuation allowance on a substantial majority of our U.S. net deferred tax assets due to the large one time charges taken during the year. The valuation allowance was calculated in accordance with the provisions of ASC 740-10, "Accounting for Income Taxes," which requires that a valuation allowance be established or maintained when it is "more likely than not" that all or a portion of deferred tax assets will not be realized. We will continue to record a valuation allowance for the substantial majority of all of our deferred tax assets until there is sufficient evidence to warrant reversal. In the event our expectations of future operating results change, an additional

valuation allowance may be required to be established on our existing unreserved net U.S. deferred tax assets.
Foreign Sales Risks
For 2015, we recognized $16.4 million of sales to customers in Latin American countries, $72.6 million of sales to customers in Europe, $19.1 million of sales to customers in Asia Pacific, $13.2 million of sales to customers in Africa, $14.6 million of sales to customers in the Middle East and $11.0 million of sales to customers in the Commonwealth of Independent States, or former Soviet Union (CIS). The majority of our foreign sales are denominated in U.S. dollars. For 2015, 2014 and

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2013, international sales comprised 66%, 74% and 73%, respectively, of total net revenues. Since 2008, global economic problems and uncertainties have generally increased in scope and nature. Since early 2014, crude oil prices dropped by approximately 50%–70% as the non-U.S. economic outlook continues to weaken, North American production continues to expand, and more recently, Saudi Arabia has publicly stated its intention to support its global market share at the expense of lower prices. The decline in crude oil prices, as well as U.S. and European Union sanctions against Russia related to its actions in Ukraine, have both contributed to the devaluation of the Russian ruble putting significant pressure on our Russian-based customers and negatively impacting the appeal of seismic data located in Russia to potential non-Russian buyers. In 2015, the Russian ruble strengthened briefly during the first quarter of the year. However, it continued to decline sharply in both the third and fourth quarters and into January 2016, reaching its lowest level since the currency was redenominated in 1998. Our results of operations, liquidity and financial condition related to our operations in Russia are primarily denominated in U.S. dollars. To the extent that world events or economic conditions negatively affect our future sales to customers in many regions of the world, as well as the collectability of our existing receivables, our future results of operations, liquidity and financial condition would be adversely affected.

Off-Balance Sheet Arrangements

Variable interest entities. As of December 31, 2015, our investment in INOVA Geophysical constitutes an investment in a variable interest entity, as that term is defined in FASB ASC Topic 810-10 “Consolidation – Overall” and as defined in Item 303(a)(4)(ii) of SEC Regulation S-K. See Footnote 1 “Summary of Significant Accounting Policies-Equity Method Investments” of Footnotes to Consolidated Financial Statements included elsewhere in this Form 10-K for additional information.

Indemnification

In the ordinary course of our business, we enter into contractual arrangements with our customers, suppliers and other parties under which we may agree to indemnify the other party to such arrangement from certain losses it incurs relating to our products or services or for losses arising from certain events as defined within the particular contract. Some of these indemnification obligations may not be subject to maximum loss limitations. Historically, payments we have made related to these indemnification obligations have been immaterial.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

Market risk is the risk of loss from adverse changes in market prices and rates. Our primary market risks include risks related to interest rates and foreign currency exchange rates.

Interest Rate Risk

As of December 31, 2015, we had outstanding total indebtedness of approximately $186.3 million, including capital lease obligations. As of December 31, 2015, all of this indebtedness accrues interest at fixed interest rates.

As our borrowings under the Credit Facility are subject to variable interest rates, we are subject to interest rate risk to the extent we have outstanding balances under the Credit Facility. We are therefore impacted by changes in LIBOR and/or our bank's base rates. We may, from time to time, use derivative financial instruments (e.g., interest rate caps), to help mitigate rising interest rates under our Credit Facility. We do not use derivatives for trading or speculative purposes and only enter into contracts with major financial institutions based on their credit rating and other factors.

Foreign Currency Exchange Rate Risk

Our operations are conducted in various countries around the world, and we receive revenue from these operations in a number of different currencies with the most significant of our international operations using British pounds sterling. As such, our earnings are subject to movements in foreign currency exchange rates when transactions are denominated in currencies other than the U.S. dollar, which is our functional currency, or the functional currency of many of our subsidiaries, which is not necessarily the U.S. dollar. To the extent that transactions of these subsidiaries are settled in currencies other than the U.S. dollar, a devaluation of these currencies versus the U.S. dollar could reduce the contribution from these subsidiaries to our consolidated results of operations as reported in U.S. dollars.

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Through our subsidiaries, we operate in a wide variety of jurisdictions, including the United Kingdom, Australia, the Netherlands, Brazil, China, Canada, Russia, the United Arab Emirates, Egypt and other countries. Our financial results may be affected by changes in foreign currency exchange rates. Our consolidated balance sheet at December 31, 2015 reflected approximately $21.8 million of net working capital related to our foreign subsidiaries, a majority of which is within the United Kingdom. Our foreign subsidiaries receive their income and pay their expenses primarily in their local currencies. To the extent that transactions of these subsidiaries are settled in the local currencies, a devaluation of these currencies versus the U.S. dollar could reduce the contribution from these subsidiaries to our consolidated results of operations as reported in U.S. dollars. For the year ended December 31, 2015, we recorded net foreign currency losses of approximately $2.1 million in Other income (expense), a majority of these losses are due to currency losses related to our operations within Brazil, Australia and Canada, partially offset by currency gains related to our operations in the United Kingdom.

Item 8. Financial Statements and Supplementary Data

The financial statements and related notes thereto required by this item begin at page F-1 hereof.

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

Not applicable.

Item 9A. Controls and Procedures

(a) Evaluation of Disclosure Controls and Procedures. Disclosure controls and procedures are designed to ensure that information required to be disclosed in the reports we file with or submit to the SEC under the Securities Exchange Act of 1934, as amended (the “Exchange Act”), is recorded, processed, summarized and reported within the time period specified by the SEC’s rules and forms. Disclosure controls and procedures are defined in Rule 13a-15(e) under the Exchange Act, and they include, without limitation, controls and procedures designed to ensure that information required to be disclosed under the Exchange Act is accumulated and communicated to management, including the principal executive officer and the principal financial officer, as appropriate, to allow timely decisions regarding required disclosure.

Our management carried out an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures as of December 31, 2015. Based upon that evaluation, our principal executive officer and principal financial officer have concluded that our disclosure controls and procedures were effective as of December 31, 2015.

(b) 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 Rules 13a-15(f) under the Exchange Act. Our internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. Our internal control over financial reporting includes those policies and procedures that:

(i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of our company;

(ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of our company are being made only in accordance with authorizations of our management and directors; and

(iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on the financial statements.

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.

Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we assessed the effectiveness of our internal control over financial reporting as of December 31, 2015 based upon criteria established in the 2013 Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

The independent registered public accounting firm that has also audited our consolidated financial statements included in this Annual Report on Form 10-K has issued an audit report on our internal control over financial reporting. This report appears below.

(c) Changes in Internal Control over Financial Reporting. There was not any change in our internal control over financial reporting that occurred during the three months ended December 31, 2015, which has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

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Report of Independent Registered Public Accounting Firm

Board of Directors and Shareholders
ION Geophysical Corporation
We have audited the internal control over financial reporting of ION Geophysical Corporation (a Delaware corporation) and subsidiaries (the "Company") as of December 31, 2015, based on criteria established in the 2013 Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control Over Financial Reporting ("Management's Report"). Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit.
We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.
A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.
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.
In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2015, based on criteria established in the 2013 Internal Control–Integrated Framework issued by COSO.
We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated financial statements of the Company as of and for the year ended December 31, 2015, and our report dated February 11, 2016 expressed an unqualified opinion on those financial statements.

/s/ GRANT THORNTON LLP
Houston, Texas
February 11, 2016

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Item 9B. Other Information
Not applicable.

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PART III

Item 10. Directors, Executive Officers and Corporate Governance

Reference is made to the information appearing in the definitive proxy statement, under “Item 1 — Election of Directors,” for our annual meeting of stockholders to be held on May 18, 2016 (the “2016 Proxy Statement”) to be filed with the SEC with respect to Directors, Executive Officers and Corporate Governance, which is incorporated herein by reference and made a part hereof in response to the information required by Item 10.

Item 11. Executive Compensation

Reference is made to the information appearing in the 2016 Proxy Statement, under “Executive Compensation,” to be filed with the SEC with respect to Executive Compensation, which is incorporated herein by reference and made a part hereof in response to the information required by Item 11.

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

Reference is made to the information appearing in the 2016 Proxy Statement, under “Item 1 — Ownership of Equity Securities of ION” and “Equity Compensation Plan Information,” to be filed with the SEC with respect to Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters, which is incorporated herein by reference and made a part hereof in response to the information required by Item 12.

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

Reference is made to the information appearing in the 2016 Proxy Statement, under “Item 1 — Certain Transactions and Relationships,” to be filed with the SEC with respect to Certain Relationships and Related Transactions and Director Independence, which is incorporated herein by reference and made a part hereof in response to the information required by Item 13.

Item 14. Principal Accounting Fees and Services

Reference is made to the information appearing in the 2016 Proxy Statement, under “Principal Auditor Fees and Services,” to be filed with the SEC with respect to Principal Accountant Fees and Services, which is incorporated herein by reference and made a part hereof in response to the information required by Item 14.

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PART IV

Item 15. Exhibits and Financial Statement Schedules

(a) List of Documents Filed

(1) Financial Statements

The financial statements filed as part of this report are listed in the “Index to Consolidated Financial Statements” on page F-1 hereof.

(2) Financial Statement Schedules

The following financial statement schedule is listed in the “Index to Consolidated Financial Statements” on page F-1 hereof, and is included as part of this Annual Report on Form 10-K:

Schedule II — Valuation and Qualifying Accounts

All other schedules are omitted because they are not applicable or the requested information is shown in the financial statements or noted therein.

(3) Exhibits

3.1	—	Restated Certificate of Incorporation dated September 24, 2007 filed on September 24, 2007 as Exhibit 3.4 to the Company’s Current Report on Form 8-K and incorporated herein by reference.
3.2	—	Amended and Restated Bylaws of ION Geophysical Corporation filed on September 24, 2007 as Exhibit 3.5 to the Company’s Current Report on Form 8-K and incorporated herein by reference.
3.3	—	Certificate of Ownership and Merger merging ION Geophysical Corporation with and into Input/Output, Inc. dated September 21, 2007, filed on September 24, 2007 as Exhibit 3.1 to the Company’s Current Report on Form 8-K and incorporated herein by reference.
4.1	—	Certificate of Rights and Designations of Series D-1 Cumulative Convertible Preferred Stock, dated February 16, 2005 and filed on February 17, 2005 as Exhibit 3.1 to the Company’s Current Report on Form 8-K and incorporated herein by reference.
4.2	—	Certificate of Elimination of Series B Preferred Stock dated September 24, 2007, filed on September 24, 2007 as Exhibit 3.2 to the Company’s Current Report on Form 8-K and incorporated herein by reference.
4.3	—	Certificate of Elimination of Series C Preferred Stock dated September 24, 2007, filed on September 24, 2007 as Exhibit 3.3 to the Company’s Current Report on Form 8-K and incorporated herein by reference.
4.4	—	Certificate of Designation of Series D-2 Cumulative Convertible Preferred Stock dated December 6, 2007, filed on December 6, 2007 as Exhibit 3.1 to the Company’s Current Report on Form 8-K and incorporated herein by reference.
4.5	—	Certificate of Designations of Series A Junior Participating Preferred Stock of ION Geophysical Corporation effective as of December 31, 2008, filed on January 5, 2009 as Exhibit 3.1 to the Company’s Current Report on Form 8-K and incorporated herein by reference.
4.6	—	Certificate of Elimination of Series A Junior Participating Preferred Stock dated February 10, 2012, filed on February 13, 2012 as Exhibit 3.1 to the Company’s Current Report on Form 8-K, and incorporated herein by reference.
4.7	—	Indenture, dated May 13, 2013, among ION Geophysical Corporation, the subsidiary guarantors named therein, Wilmington Trust, National Association, as trustee, and U.S. Bank National Association, as collateral agent, filed on May 13, 2013 as Exhibit 4.1 to the Company’s Current Report on Form 8-K and incorporated herein by reference.
4.8	—	Registration Rights Agreement, dated May 13, 2013, among ION Geophysical Corporation, the subsidiary guarantors named therein and Citigroup Global Markets Inc. and Wells Fargo Securities, LLC, as representatives of the initial purchasers named therein, filed on May 13, 2013 as Exhibit 4.2 to the Company’s Current Report on Form 8-K and incorporated herein by reference.
4.9	—	

		Certificate of Elimination of Series D-1 Cumulative Convertible Preferred Stock dated September 30, 2013, filed on September 30, 2013 as Exhibit 3.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.
4.10	—	Certificate of Elimination of Series D-2 Cumulative Convertible Preferred Stock dated September 30, 2013, filed on September 30, 2013 as Exhibit 3.2 to the Company's Current Report on Form 8-K and incorporated herein by reference.

**10.1	—	Amended and Restated 1990 Stock Option Plan, filed on June 9, 1999 as Exhibit 4.2 to the Company's Registration Statement on Form S-8 (Registration No. 333-80299), and incorporated herein by reference.
10.2	—	Office and Industrial/Commercial Lease dated June 2005 by and between Stafford Office Park II, LP as Landlord and Input/Output, Inc. as Tenant, filed on March 31, 2006 as Exhibit 10.2 to the Company's Annual Report on Form 10-K for the year ended December 31, 2005, and incorporated herein by reference.
10.3	—	Office and Industrial/Commercial Lease dated June 2005 by and between Stafford Office Park District as Landlord and Input/Output, Inc. as Tenant, filed on March 31, 2006 as Exhibit 10.3 to the Company's Annual Report on Form 10-K for the year ended December 31, 2005, and incorporated herein by reference.
**10.4	—	Input/Output, Inc. Amended and Restated 1996 Non-Employee Director Stock Option Plan, filed on June 9, 1999 as Exhibit 4.3 to the Company's Registration Statement on Form S-8 (Registration No. 333-80299), and incorporated herein by reference.
**10.5	—	Amendment No. 1 to the Input/Output, Inc. Amended and Restated 1996 Non-Employee Director Stock Option Plan dated September 13, 1999 filed on November 14, 1999 as Exhibit 10.4 to the Company's Quarterly Report on Form 10-Q for the fiscal quarter ended August 31, 1999 and incorporated herein by reference.
**10.6	—	Input/Output, Inc. Employee Stock Purchase Plan, filed on March 28, 1997 as Exhibit 4.4 to the Company's Registration Statement on Form S-8 (Registration No. 333-24125), and incorporated herein by reference.
**10.7	—	Fifth Amended and Restated - 2004 Long-Term Incentive Plan, filed as Appendix A to the definitive proxy statement for the 2010 Annual Meeting of Stockholders of ION Geophysical Corporation, filed on April 21, 2010, and incorporated herein by reference.
10.8	—	Registration Rights Agreement dated as of November 16, 1998, by and among the Company and The Laitram Corporation, filed on March 12, 2004 as Exhibit 10.7 to the Company's Annual Report on Form 10-K for the year ended December 31, 2003, and incorporated herein by reference.
**10.9	—	Input/Output, Inc. 1998 Restricted Stock Plan dated as of June 1, 1998, filed on June 9, 1999 as Exhibit 4.7 to the Company's Registration Statement on S-8 (Registration No. 333-80297), and incorporated herein by reference.
**10.10	—	Input/Output Inc. Non-qualified Deferred Compensation Plan, filed on April 1, 2002 as Exhibit 10.14 to the Company's Annual Report on Form 10-K for the year ended December 31, 2001, and incorporated herein by reference.
**10.11	—	Input/Output, Inc. 2000 Restricted Stock Plan, effective as of March 13, 2000, filed on August 17, 2000 as Exhibit 10.27 to the Company's Annual Report on Form 10-K for the fiscal year ended May 31, 2000, and incorporated herein by reference.
**10.12	—	Input/Output, Inc. 2000 Long-Term Incentive Plan, filed on November 6, 2000 as Exhibit 4.7 to the Company's Registration Statement on Form S-8 (Registration No. 333-49382), and incorporated by reference herein.
**10.13	—	Employment Agreement dated effective as of March 31, 2003, by and between the Company and Robert P. Peebler, filed on March 31, 2003 as Exhibit 10.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.
**10.14	—	First Amendment to Employment Agreement dated September 6, 2006, between Input/Output, Inc. and Robert P. Peebler, filed on September 7, 2006, as Exhibit 10.1 to the Company's Current Report on Form 8-K, and incorporated herein by reference.
**10.15	—	Second Amendment to Employment Agreement dated February 16, 2007, between Input/Output, Inc. and Robert P. Peebler, filed on February 16, 2007 as Exhibit 10.1 to the Company's Current Report on Form 8-K, and incorporated herein by reference.

**10.16 —	Third Amendment to Employment Agreement dated as of August 20, 2007 between Input/Output, Inc. and Robert P. Peebler, filed on August 21, 2007 as Exhibit 10.2 to the Company's Current Report on Form 8-K and incorporated herein by reference.
**10.17 —	Fourth Amendment to Employment Agreement, dated as of January 26, 2009, between ION Geophysical Corporation and Robert P. Peebler, filed on January 29, 2009 as Exhibit 10.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.
**10.18 —	Employment Agreement dated effective as of June 15, 2004, by and between the Company and David L. Roland, filed on August 9, 2004 as Exhibit 10.5 to the Company's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2004, and incorporated herein by reference.
**10.19 —	GX Technology Corporation Employee Stock Option Plan, filed on August 9, 2004 as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2004, and incorporated herein by reference.

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10.20	—	Concept Systems Holdings Limited Share Acquisition Agreement dated February 23, 2004, filed on March 5, 2004 as Exhibit 2.1 to the Company's Current Report on Form 8-K, and incorporated herein by reference.
10.21	—	Registration Rights Agreement by and between ION Geophysical Corporation and 1236929 Alberta Ltd. dated September 18, 2008, filed on November 7, 2008 as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q and incorporated herein by reference.
**10.22	—	Form of Employment Inducement Stock Option Agreement for the Input/Output, Inc. — Concept Systems Employment Inducement Stock Option Program, filed on July 27, 2004 as Exhibit 4.1 to the Company's Registration Statement on Form S-8 (Reg. No. 333-117716), and incorporated herein by reference.
**10.23	—	Form of Employee Stock Option Award Agreement for ARAM Systems Employee Inducement Stock Option Program, filed on November 14, 2008 as Exhibit 4.4 to the Company's Registration Statement on Form S-8 (Registration No. 333-155378) and incorporated herein by reference.
**10.24	—	Input/Output, Inc. 2003 Stock Option Plan, dated March 27, 2003, filed as Appendix B of the Company's definitive proxy statement filed with the SEC on April 30, 2003, and incorporated herein by reference.
**10.25	—	Form of Employment Inducement Stock Option Agreement for the Input/Output, Inc. — GX Technology Corporation Employment Inducement Stock Option Program, filed on April 4, 2005 as Exhibit 4.1 to the Company's Registration Statement on Form S-8 (Reg. No. 333-123831), and incorporated herein by reference.
**10.26	—	ION Stock Appreciation Rights Plan dated November 17, 2008, filed as Exhibit 10.47 to the Company's Annual Report on Form 10-K for the year ended December 31, 2008, and incorporated herein by reference.
10.27	—	Canadian Master Loan and Security Agreement dated as of June 29, 2009 by and among ICON ION, LLC, as lender, ION Geophysical Corporation and ARAM Rentals Corporation, a Nova Scotia corporation, filed on August 6, 2009 as Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2009, and incorporated herein by reference.
10.28	—	Master Loan and Security Agreement (U.S.) dated as of June 29, 2009 by and among ICON ION, LLC, as lender, ION Geophysical Corporation and ARAM Seismic Rentals, Inc., a Texas corporation, filed on August 6, 2009 as Exhibit 10.4 to the Company's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2009, and incorporated herein by reference.
10.29	—	Registration Rights Agreement dated as of October 23, 2009 by and between ION Geophysical Corporation and BGP Inc., China National Petroleum Corporation filed on March 1, 2010 as Exhibit 10.54 to the Company's Annual Report on Form 10-K for the year ended December 31, 2009, and incorporated herein by reference.
10.30	—	Stock Purchase Agreement dated as of March 19, 2010, by and between ION Geophysical Corporation and BGP Inc., China National Petroleum Corporation, filed on March 31, 2010 as Exhibit 10.1 to the Company's Current Report on Form 8-K, and incorporated herein by reference.
10.31	—	Investor Rights Agreement dated as of March 25, 2010, by and between ION Geophysical Corporation and BGP Inc., China National Petroleum Corporation, filed on March 31, 2010 as Exhibit 10.2 to the Company's Current Report on Form 8-K, and incorporated herein by reference.
10.32	—	Share Purchase Agreement dated as of March 24, 2010, by and among ION Geophysical Corporation, INOVA Geophysical Equipment Limited and BGP Inc., China National Petroleum Corporation, filed on March 31, 2010 as Exhibit 10.3 to the Company's Current Report on Form 8-K, and incorporated herein by reference.
10.33	—	Joint Venture Agreement dated as of March 24, 2010, by and between ION Geophysical Corporation and BGP Inc., China National Petroleum Corporation, filed on March 31, 2010 as Exhibit 10.4 to the Company's Current Report on Form 8-K, and incorporated herein by reference.

**10.34 —	Fifth Amendment to Employment Agreement dated June 1, 2010, between ION Geophysical Corporation and Robert P. Peebler, filed on June 1, 2010 as Exhibit 10.1 to the Company's Current Report on Form 8-K, and incorporated herein by reference.
**10.35 —	Employment Agreement dated August 2, 2011, effective as of January 1, 2012, between ION Geophysical Corporation and R. Brian Hanson, filed on November 3, 2011 as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2011, and incorporated herein by reference.
**10.36 —	Employment Agreement dated effective as of November 28, 2011, between ION Geophysical Corporation and Gregory J. Heinlein, filed on December 1, 2011 as Exhibit 10.1 to the Company's Current Report on Form 8-K, and incorporated herein by reference.

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**10.37	—	First Amendment to Credit Agreement and Loan Documents dated May 29, 2012, filed on May 29, 2012 as Exhibit 10.1 to the Company's Current Report on Form 8-K, and incorporated herein by reference.
**10.38	—	Consulting Services Agreement dated January 1, 2013, between ION Geophysical Corporation and The Peebler Group LLC, filed on January 4, 2013 as Exhibit 10.1 to the Company's Current Report on Form 8-K, and incorporated herein by reference.
**10.39	—	2013 Long-Term Incentive Plan, filed as Exhibit 1 to the definitive proxy statement for the 2013 Annual Meeting of Stockholders of ION Geophysical Corporation, filed on April 16, 2013, and incorporated herein by reference.
10.40	—	Purchase Agreement, dated May 8, 2013, among ION Geophysical Corporation, the subsidiary guarantors named therein and Citigroup Global Markets Inc. and Wells Fargo Securities, LLC, as representatives of the initial purchasers named therein, filed on May 13, 2013 as Exhibit 10.1 to the Company's Current Report on Form 8-K and incorporated herein by reference
10.41	—	Second Lien Intercreditor Agreement by and among China Merchants Bank Co., Ltd., New York Branch, as administrative agent, first lien representative for the first lien secured parties and collateral agent for the first lien secured parties, Wilmington Trust Company, National Association, as trustee and second lien representative for the second lien secured parties, and U.S. Bank National Association, as collateral agent for the second lien secured parties, and acknowledged and agreed to by ION Geophysical Corporation and the other grantors named therein, filed on May 13, 2013 as Exhibit 10.2 to the Company's Current Report on Form 8-K and incorporated herein by reference
10.42	—	Revolving Credit and Security Agreement dated as of August 22, 2014 among PNC Bank, National Association, as agent for lenders, the lenders from time to time party thereto, as lenders, and PNC Capital Markets LLC, as lead arranger and bookrunner, with ION Geophysical Corporation, ION Exploration Products (U.S.A.), Inc., I/O Marine Systems, Inc. and GX Technology Corporation, as borrowers, filed on November 6, 2014 as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2014, and incorporated herein by reference.
**10.43	—	Transition and Separation Agreement dated effective as of October 30, 2014, by and between ION Geophysical Corporation and Gregory J. Heinlein.
**10.44	—	Employment Agreement dated effective as of November 13, 2014, between ION Geophysical Corporation and Steve Bate.
**10.45	—	Form of Rights Agreement dated March 1, 2015 issued under the ION Stock Appreciation Rights Plan dated November 17, 2008, filed on May 7, 2015 as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2015, and incorporated herein by reference.
10.46	—	First Amendment to Revolving Credit and Security Agreement dated as of August 4, 2015 among PNC Bank, National Association, as lender and agent, the lenders from time to time party thereto, as lenders, with ION Geophysical Corporation, ION Exploration Products (U.S.A.), Inc., I/O Marine Systems, Inc. and GX Technology Corporation, as borrowers, filed on August 6, 2015 as Exhibit 10.1 to the Company's Current Report on Form 8-K, and incorporated herein by reference.
*21.1	—	Subsidiaries of the Company.
*23.1	—	Consent of Grant Thornton LLP.
*23.2	—	Consent of Ernst & Young LLP.
*24.1	—	The Power of Attorney is set forth on the signature page hereof.
25.1	—	Registration Statement (Form S-4 No. 333-194110) of ION Geophysical Corporation, and incorporated herein by reference.

*31.1	—	Certification of Chief Executive Officer Pursuant to Rule 13a-14(a) or Rule 15d-14(a).
*31.2	—	Certification of Chief Financial Officer Pursuant to Rule 13a-14(a) or Rule 15d-14(a).
*32.1	—	Certification of Chief Executive Officer Pursuant to 18 U.S.C. §1350.
*32.2	—	Certification of Chief Financial Officer Pursuant to 18 U.S.C. §1350.
101	—	The following materials are formatted in Extensible Business Reporting Language (XBRL): (i) Consolidated Balance Sheets at December 31, 2015 and 2014, (ii) Consolidated Statements of Operations for the years ended December 31, 2015, 2014 and 2013, (iii) Comprehensive Income (Loss) for the years ended December 31, 2015, 2014 and 2013, (iv) Consolidated Statements of Cash Flows for the years ended December 31, 2015, 2014 and 2013, (v) Consolidated Statements of Stockholders' Equity for the years ended December 31, 2015, 2014 and 2013, (vi) Footnotes to Consolidated Financial Statements and (vii) Schedule II – Valuation and Qualifying Accounts.

* Filed herewith.
** Management contract or compensatory plan or arrangement.

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(b) Exhibits required by Item 601 of Regulation S-K.
Reference is made to subparagraph (a) (3) of this Item 15, which is incorporated herein by reference.

(c) Not applicable.

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SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized in the City of Houston, State of Texas, on February 11, 2016.

ION GEOPHYSICAL CORPORATION

By /s/ R. Brian Hanson
R. Brian Hanson
President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints R. Brian Hanson and Jamey S. Seely and each of them, as his or her true and lawful attorneys-in-fact and agents with full power of substitution and re-substitution for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all documents relating to the Annual Report on Form 10-K for the year ended December 31, 2015, including any and all amendments and supplements thereto, and to file the same with all exhibits thereto and other documents in connection therewith with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully as to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or their or his or her substitute or substitutes may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, this Annual Report on Form 10-K has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

Name	Capacities	Date
/S/ R. BRIAN HANSON R. Brian Hanson	President, Chief Executive Officer and Director (Principal Executive Officer)	February 11, 2016
/S/ STEVEN A. BATE Steven A. Bate	Executive Vice President and Chief Financial Officer (Principal Financial Officer)	February 11, 2016
/S/ SCOTT SCHWAUSCH Scott Schwausch	Vice President and Corporate Controller (Principal Accounting Officer)	February 11, 2016
/S/ JAMES M. LAPEYRE, JR. James M. Lapeyre, Jr.	Chairman of the Board of Directors and Director	February 11, 2016
/S/ DAVID H. BARR David H. Barr	Director	February 11, 2016
/S/ HAO HUIMIN Hao Huimin	Director	February 11, 2016

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Name	Capacities	Date
/S/ MICHAEL C. JENNINGS Michael C. Jennings	Director	February 11, 2016
/S/ FRANKLIN MYERS Franklin Myers	Director	February 11, 2016
/S/ S. JAMES NELSON, JR. S. James Nelson, Jr.	Director	February 11, 2016
/S/ JOHN N. SEITZ John N. Seitz	Director	February 11, 2016

ION GEOPHYSICAL CORPORATION AND SUBSIDIARIES
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Report of Independent Registered Public Accounting Firm

Board of Directors and Shareholders
ION Geophysical Corporation

We have audited the accompanying consolidated balance sheets of ION Geophysical Corporation (a Delaware corporation) and subsidiaries (the "Company") as of December 31, 2015 and 2014, and the related consolidated statements of operations, comprehensive income (loss), shareholders' equity, and cash flows for the years then ended. Our audits of the basic consolidated financial statements included the financial statement schedule listed in the index appearing under 15(a). These financial statements and financial statement schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements and the financial statement schedule based on our audit.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of ION Geophysical Corporation and subsidiaries as of December 31, 2015 and 2014, and the results of their operations and their cash flows for the years ended December 31, 2015 and 2014 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the related financial statement schedule, when considered in relation to the basic consolidated financial statements taken as a whole, presents fairly, in all material respects, the information set forth therein.

We also have audited the adjustments described in Note 11 to the financial statements that were applied to the 2013 financial statements to retrospectively apply the reverse stock split. In our opinion, such adjustments are appropriate and have been properly applied. We were not engaged to audit, review, or apply any procedures to the 2013 financial statements of the Company other than with respect to such adjustments and, accordingly, we do not express an opinion or any other form of assurance on the 2013 financial statements taken as a whole.

As discussed in Note 20 to the consolidated financial statements, the Company changed its method of presentation for deferred income taxes in 2015 due to the adoption of FASB Accounting Standards Update No. 2015-17 - Balance Sheet Classification of Deferred Income Taxes.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the Company's internal control over financial reporting as of December 31, 2015, based on criteria established in the 2013 Internal Control–Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO), and our report dated February 11, 2016 expressed an unqualified opinion thereon.

/s/ GRANT THORNTON LLP
Houston, Texas
February 11, 2016

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders of ION Geophysical Corporation and Subsidiaries

We have audited, before the effects of the adjustments to retrospectively apply the change in accounting related to the reverse stock split described in Note 11, the accompanying consolidated statements of operations, comprehensive loss, cash flows, and stockholders' equity of ION Geophysical Corporation and subsidiaries as of December 31, 2013 (the 2013 financial statements before the effects of the adjustments related to the reverse stock split discussed in Note 11 are not presented herein). Our audit also included the financial statement schedule for the year ended December 31, 2013 listed in the Index at Item 15(a). The 2013 financial statements and schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements and schedule based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provided a reasonable basis for our opinion.

In our opinion, the 2013 financial statements, before the effects of the adjustments related to the reverse stock split to retrospectively apply the change in accounting described in Note 11, present fairly, in all material respects, the consolidated results of operations and cash flows of ION Geophysical Corporation and subsidiaries for the year ended December 31, 2013 in conformity with U.S. generally accepted accounting principles. Also, in our opinion, the related financial statement schedule, when considered in relation to the basic financial statements taken as a whole, presents fairly in all material respects the information set forth therein.

We were not engaged to audit, review, or apply any procedures to the adjustments related to the adjustments to retrospectively apply the change in accounting described in Note 11 and, accordingly, we do not express an opinion or any other form of assurance about whether such adjustments are appropriate and have been properly applied. Those adjustments were audited by Grant Thornton LLP.

/s/ Ernst & Young LLP
Houston, Texas
February 24, 2014

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ION GEOPHYSICAL CORPORATION AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

	December 31, 2015	2014
	(In thousands, except share data)	
ASSETS		
Current assets:		
Cash and cash equivalents	$84,933	$173,608
Accounts receivable, net	44,365	114,325
Unbilled receivables	19,937	22,599
Inventories	32,721	51,162
Prepaid expenses and other current assets	14,807	13,662
Total current assets	196,763	375,356
Deferred income tax asset	—	8,604
Property, plant, equipment and seismic rental equipment, net	72,027	69,840
Multi-client data library, net	132,237	118,669
Goodwill	26,274	27,388
Intangible assets, net	4,810	6,788
Other assets	6,305	10,612
Total assets	$438,416	$617,257
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Current maturities of long-term debt	$7,912	$7,649
Accounts payable	29,799	36,863
Accrued expenses	34,287	65,264
Accrued multi-client data library royalties	25,045	35,219
Deferred revenue	6,560	8,262
Total current liabilities	103,603	153,257
Long-term debt, net of current maturities	178,408	182,945
Other long-term liabilities	44,365	143,804
Total liabilities	326,376	480,006
Redeemable noncontrolling interest	—	1,539
Commitments and contingencies		
Equity:		
Common stock, $0.01 par value; authorized 26,666,667 shares; outstanding 10,702,689 and 10,965,606 shares at December 31, 2015 and 2014, respectively, net of treasury stock	107	110
Additional paid-in capital	894,715	889,284
Accumulated deficit	(759,531)	(734,409)
Accumulated other comprehensive loss	(14,781)	(12,807)
Treasury stock, at cost, 353,124 and 56,636 shares at December 31, 2015 and 2014 respectively	(8,551)	(6,565)
Total stockholders' equity	111,959	135,613
Noncontrolling interests	81	99
Total equity	112,040	135,712
Total liabilities and equity	$438,416	$617,257

See accompanying Footnotes to Consolidated Financial Statements.

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ION GEOPHYSICAL CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS

	Years Ended December 31,		
	2015	2014	2013
	(In thousands, except per share data)		
Service revenues	$160,480	$384,938	$391,317
Product revenues	61,033	124,620	157,850
Total net revenues	221,513	509,558	549,167
Cost of services	179,816	278,627	272,047
Cost of products	33,295	68,608	112,346
Impairment of multi-client data library	399	100,100	5,461
Gross profit	8,003	62,223	159,313
Operating expenses:			
Research, development and engineering	26,445	41,009	37,742
Marketing and sales	30,493	39,682	38,583
General, administrative and other operating expenses	51,697	76,177	66,592
Impairment of goodwill and intangible assets	—	23,284	—
Total operating expenses	108,635	180,152	142,917
Income (loss) from operations	(100,632)	(117,929)	16,396
Interest expense, net	(18,753)	(19,382)	(12,344)
Equity in losses of investments	—	(49,485)	(42,320)
Other income (expense)	98,275	79,860	(182,530)
Loss before income taxes	(21,110)	(106,936)	(220,798)
Income tax expense	4,044	20,582	25,720
Net loss	(25,154)	(127,518)	(246,518)
Net (income) loss attributable to noncontrolling interests	32	(734)	658
Net loss attributable to ION	(25,122)	(128,252)	(245,860)
Preferred stock dividends	—	—	1,014
Conversion payment of preferred stock	—	—	5,000
Net loss applicable to common shares	$(25,122)	$(128,252)	$(251,874)
Net loss per share:			
Basic	$(2.29)	$(11.72)	$(23.84)
Diluted	$(2.29)	$(11.72)	$(23.84)
Weighted average number of common shares outstanding:			
Basic	10,957	10,939	10,567
Diluted	10,957	10,939	10,567

See accompanying Footnotes to Consolidated Financial Statements.

ION GEOPHYSICAL CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS

	Years Ended December 31,		
	2015	2014	2013
	(In thousands)		
Net loss	$(25,154)	$(127,518)	$(246,518)
Other comprehensive income (loss), net of taxes, as appropriate:			
Foreign currency translation adjustments	(1,974)	(882)	713
Equity interest in investee’s other comprehensive loss	—	(841)	(373)
Unrealized gain on available-for-sale securities	—	28	277
Other changes in other comprehensive income	—	26	131
Total other comprehensive income (loss), net of taxes	(1,974)	(1,669)	748
Comprehensive net loss	(27,128)	(129,187)	(245,770)
Comprehensive (income) loss attributable to noncontrolling interests	32	(734)	658
Comprehensive net loss attributable to ION	$(27,096)	$(129,921)	$(245,112)

See accompanying Footnotes to Consolidated Financial Statements.

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ION GEOPHYSICAL CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Years Ended December 31,		
	2015	2014	2013
	(In thousands)		
Cash flows from operating activities:			
Net loss	$(25,154)	$(127,518)	$(246,518)
Adjustments to reconcile net loss to net cash provided by (used in) operating activities:			
Depreciation and amortization (other than multi-client library)	26,527	27,656	18,158
Amortization of multi-client data library	35,784	64,374	86,716
Stock-based compensation expense	5,486	8,707	7,476
Accrual for (reduction of) loss contingency related to legal proceedings	(101,978)	(69,557)	183,327
Equity in losses of investments	—	49,485	42,320
Gain on sale of Source product line	—	(6,522)	—
Gain on sale of cost method investments	—	(5,463)	(3,591)
Impairment of goodwill and intangible assets	—	23,284	—
Impairment of multi-client data library	399	100,100	5,461
Write-down of excess and obsolete inventory	151	6,952	21,197
Write-down of receivables from INOVA Geophysical	—	5,510	—
Write-down of receivables from OceanGeo	—	—	9,157
Deferred income taxes	7,444	(437)	4,844
Change in operating assets and liabilities:			
Accounts receivable	69,491	41,943	(27,571)
Unbilled receivables	1,630	26,762	40,211
Inventories	2,251	(13,892)	(8,906)
Accounts payable, accrued expenses and accrued royalties	(30,264)	(4,771)	8,482
Deferred revenue	(1,571)	(8,382)	(6,253)
Other assets and liabilities	(6,720)	11,549	13,077
Net cash provided by (used in) operating activities	(16,524)	129,780	147,587
Cash flows from investing activities:			
Investment in multi-client data library	(45,558)	(67,785)	(114,582)
Purchase of property, plant, equipment and seismic rental equipment	(19,241)	(8,264)	(16,914)
Repayment of (net advances to) INOVA Geophysical	—	1,000	(5,000)
Net investment in and advances to OceanGeo B.V. prior to its consolidation	—	(3,074)	(24,755)
Net proceeds from sale of Source product line	—	14,394	—
Proceeds from sale of cost method investments	—	14,051	4,150
Investment in convertible notes	—	—	(2,000)
Other investing activities	1,263	928	128
Net cash used in investing activities	(63,536)	(48,750)	(158,973)
Cash flows from financing activities:			
Proceeds from issuance of notes	—	—	175,000
Borrowings under revolving line of credit	—	15,000	35,000
Payments under revolving line of credit	—	(50,000)	(97,250)
Payments on notes payable and long-term debt	(7,452)	(12,998)	(4,361)
Cost associated with issuance of debt	(145)	(2,194)	(6,773)
Acquisition of non-controlling interest	—	(6,000)	—

Repurchase of common stock	(1,989)	—	—
Payment of preferred dividends	—	—	(1,014)
Conversion payment of preferred stock	—	—	(5,000)
Proceeds from employee stock purchases and exercise of stock options	73	577	2,527
Other financing activities	—	(359)	573
Net cash provided by (used in) financing activities	(9,513)	(55,974)	98,702
Effect of change in foreign currency exchange rates on cash and cash equivalents	898	496	(231)
Net increase (decrease) in cash and cash equivalents	(88,675)	25,552	87,085
Cash and cash equivalents at beginning of period	173,608	148,056	60,971
Cash and cash equivalents at end of period	$84,933	$173,608	$148,056

See accompanying Footnotes to Consolidated Financial Statements.

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ION GEOPHYSICAL CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

(In thousands, except shares)	Cumulative Convertible Preferred Stock Shares	Cumulative Convertible Preferred Stock Amount	Common Stock Shares	Common Stock Amount	Additional Paid-In Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Treasury Stock	Noncontrolling Interests	Total Equity
Balance at December 31, 2012	27,000	$27,000	10,423,797	$104	$850,129	$(360,297)	$(11,886)	$(6,565)	$534	$499,019
Net loss (a)	—	—	—	—	—	(245,860)	—	—	(339)	(246,199)
Translation adjustment	—	—	—	—	—	—	713	—	(56)	657
Change in fair value of effective cash flow hedges (net of taxes)	—	—	—	—	—	—	131	—	—	131
Equity interest in INOVA Geophysical's other comprehensive loss	—	—	—	—	—	—	(373)	—	—	(373)
Unrealized gain (loss) on available-for-sale securities	—	—	—	—	—	—	277	—	—	277
Preferred stock dividends	—	—	—	—	(1,014)	—	—	—	—	(1,014)
Conversion payment of preferred stock	(27,000)	(27,000)	404,338	5	21,995	—	—	—	—	(5,000)
Stock-based compensation expense	—	—	—	—	7,476	—	—	—	—	7,476
Exercise of stock options	—	—	47,172	—	2,527	—	—	—	—	2,527
Vesting of restricted stock units/awards	—	—	38,558	—	—	—	—	—	—	—
Restricted stock cancelled for employee minimum income taxes	—	—	(7,672)	—	(483)	—	—	—	—	(483)
Issuance of stock for the ESPP	—	—	9,658	—	780	—	—	—	—	780
Tax benefits from stock-based	—	—	—	—	87	—	—	—	—	87

compensation										
Balance at December 31, 2013	—	—	10,915,851	109	881,497	(606,157)	(11,138)	(6,565)	139	257,885
Net loss (a)	—	—	—	—	—	(128,252)	—	—	18	(128,234)
Translation adjustment	—	—	—	—	—	—	(882)	—	(58)	(940)
Change in fair value of effective cash flow hedges (net of taxes)	—	—	—	—	—	—	26	—	—	26
Equity interest in INOVA Geophysical’s other comprehensive loss	—	—	—	—	—	—	(841)	—	—	(841)
Unrealized gain (loss) on available-for-sale securities	—	—	—	—	—	—	28	—	—	28
Stock-based compensation expense	—	—	—	—	8,707	—	—	—	—	8,707
Exercise of stock options	—	—	1,900	—	95	—	—	—	—	95
Vesting of restricted stock units/awards	—	—	44,162	1	(1)	—	—	—	—	—
Restricted stock cancelled for employee minimum income taxes	—	—	(9,075)	—	(350)	—	—	—	—	(350)
Issuance of stock for the ESPP	—	—	12,768	—	482	—	—	—	—	482
Purchase of subsidiary shares from noncontrolling interest	—	—	—	—	(1,146)	—	—	—	—	(1,146)
Balance at December 31, 2014	—	—	10,965,606	110	889,284	(734,409)	(12,807)	(6,565)	99	135,712
Net loss (a)	—	—	—	—	—	(25,122)	—	—	4	(25,118)
Translation adjustment	—	—	—	—	—	—	(1,974)	—	(22)	(1,996)
Stock-based compensation expense	—	—	—	—	5,486	—	—	—	—	5,486
	—	—	29,191	—	—	—	—	—	—	—

Vesting of restricted stock units/awards										
Purchase of treasury shares	—	—	(296,488)	(3)	—	—	—	(1,986)	—	(1,989)
Restricted stock cancelled for employee minimum income taxes	—	—	(6,208)	—	(126)	—	—	—	—	(126)
Issuance of stock for the ESPP	—	—	10,588	—	215	—	—	—	—	215
Purchase of subsidiary shares from noncontrolling interest	—	—	—	—	(144)	—	—	—	—	(144)
Balance at December 31, 2015	—	$—	10,702,689	$107	$894,715	$(759,531)	$(14,781)	$(8,551)	$81	$112,040

(a) Net income attributable to noncontrolling interests for 2015, 2014 and 2013 excludes less than $(0.1) million, $0.7 million and $(0.3) million, respectively, related to the redeemable noncontrolling interests, which is reported in the mezzanine equity section of the Consolidated Balance Sheet.

(b) The figures set forth in the tables above have been retroactively adjusted to reflect the one-for-fifteen reverse stock split completed on February 4,2016.

See accompanying Footnotes to Consolidated Financial Statements.

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ION GEOPHYSICAL CORPORATION AND SUBSIDIARIES
FOOTNOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(1) Summary of Significant Accounting Policies

General Description and Principles of Consolidation

ION Geophysical Corporation and its subsidiaries offer a full suite of services and products for seismic data acquisition and processing. The consolidated financial statements include the accounts of ION Geophysical Corporation and its majority-owned subsidiaries (collectively referred to as the "Company" or "ION"). Intercompany balances and transactions have been eliminated. Certain reclassifications were made to previously reported amounts in the consolidated financial statements and notes thereto to make them consistent with the current presentation format.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Significant estimates are made at discrete points in time based on relevant market information. These estimates may be subjective in nature and involve uncertainties and matters of judgment and, therefore, cannot be determined with precision. Areas involving significant estimates include, but are not limited to, accounts and unbilled receivables, inventory valuation, sales forecasts related to multi-client data libraries, goodwill and intangible asset valuation and deferred taxes. Actual results could materially differ from those estimates.

Cash and Cash Equivalents

The Company considers all highly liquid investments with an original maturity of three months or less to be cash equivalents. The Company places its temporary cash investments with high credit quality financial institutions. At times such investments may be in excess of the Federal Deposit Insurance Corporation (FDIC) insurance limit. At December 31, 2015 and 2014, there was $0.5 million and $0.4 million, respectively, of short-term restricted cash used to secure standby and commercial letters of credit, which is included within Prepaid Expenses and Other Current Assets.

Accounts and Unbilled Receivables

Accounts and unbilled receivables are recorded at cost, less the related allowance for doubtful accounts. The Company considers current information and events regarding the customers' ability to repay their obligations, such as the length of time the receivable balance is outstanding, the customers' credit worthiness and historical experience. Unbilled receivables relate to revenues recognized on multi-client surveys, imaging services and ocean bottom acquisition services on a proportionate basis, and on licensing of multi-client data libraries for which invoices have not yet been presented to the customer.

Inventories

Inventories are stated at the lower of cost (primarily first-in, first-out method) or market. The Company provides reserves for estimated obsolescence or excess inventory equal to the difference between cost of inventory and its estimated market value based upon assumptions about future demand for the Company's products, market conditions and the risk of obsolescence driven by new product introductions.

Property, Plant, Equipment and Seismic Rental Equipment

Property, plant, equipment and seismic rental equipment are stated at cost. Depreciation expense is provided straight-line over the following estimated useful lives:

	Years
Machinery and equipment	3-7
Buildings	5-25
Seismic rental equipment	3-5
Leased equipment and other	3-10

Expenditures for renewals and betterments are capitalized; repairs and maintenance are charged to expense as incurred. The cost and accumulated depreciation of assets sold or otherwise disposed of are removed from the accounts and any gain or loss is reflected in operating expenses.

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The Company evaluates the recoverability of long-lived assets, including property, plant, equipment and seismic rental equipment, when indicators of impairment exist, relying on a number of factors including operating results, business plans, economic projections and anticipated future cash flows. Impairment in the carrying value of an asset held for use is recognized whenever anticipated future cash flows (undiscounted) from an asset are estimated to be less than its carrying value. The amount of the impairment recognized is the difference between the carrying value of the asset and its fair value.

Multi-Client Data Library

The multi-client data library consists of seismic surveys that are offered for licensing to customers on a non-exclusive basis. The capitalized costs include costs paid to third parties for the acquisition of data and related activities associated with the data creation activity and direct internal processing costs, such as salaries, benefits, computer-related expenses and other costs incurred for seismic data project design and management. For 2015, 2014 and 2013, the Company capitalized, as part of its multi-client data library, $6.1 million, $8.3 million and $2.1 million, respectively, of direct internal processing costs. At December 31, 2015 and 2014, multi-client data library costs and accumulated amortization consisted of the following (in thousands):

	December 31,	
	2015	2014
Gross costs of multi-client data creation	$899,273	$849,522
Less accumulated amortization	(647,435)	(611,651)
Less impairments to multi-client data library	(119,601)	(119,202)
Total	$132,237	$118,669

The Company’s method of amortizing the costs of an in-process multi-client data library (the period during which the seismic data is being acquired and/or processed, referred to as the “new venture” phase) consists of determining the percentage of actual revenue recognized to the total estimated revenues (which includes both revenues estimated to be realized during the new venture phase and estimated revenues from the licensing of the resulting “on-the-shelf” data survey) and multiplying that percentage by the total cost of the project (the sales forecast method). The Company considers a multi-client data survey to be complete when all work on the creation of the seismic data is finished and that data survey is available for licensing. Once a multi-client data survey is complete, the data survey is considered “on-the-shelf” and the Company’s method of amortization is then the greater of (i) the sales forecast method or (ii) the straight-line basis over a four-year period. The greater amount of amortization resulting from the sales forecast method or the straight-line amortization policy is applied on a cumulative basis at the individual survey level. Under this policy, the Company first records amortization using the sales forecast method. The cumulative amortization recorded for each survey is then compared with the cumulative straight-line amortization. The four-year period utilized in this cumulative comparison commences when the data survey is determined to be complete. If the cumulative straight-line amortization is higher for any specific survey, additional amortization expense is recorded, resulting in accumulated amortization being equal to the cumulative straight-line amortization for such survey. The Company has determined the amortization period of four years based upon its historical experience that indicates that the majority of its revenues from multi-client surveys are derived during the acquisition and processing phases and during four years subsequent to survey completion.

The Company estimates the ultimate revenue expected to be derived from a particular seismic data survey over its estimated useful economic life to determine the costs to amortize, if greater than straight-line amortization. That estimate is made by the Company at the project’s initiation. For a completed multi-client survey, the Company reviews the estimate quarterly. If during any such review, the Company determines that the ultimate revenue for a survey is expected to be materially more or less than the original estimate of ultimate revenue for such survey, the Company decreases or increases (as the case may be) the amortization rate attributable to the future revenue from such survey. In addition, in connection with such reviews, the Company evaluates the recoverability of the multi-client data library, and, if required under Accounting Standards Codification (“ASC”) 360-10 “Impairment and Disposal of Long-Lived Assets,” records an impairment charge with respect to such data. For a discussion of impairments of the Company’s multi-client data library in 2014 and 2013, see Footnote 2 “Impairments, Restructurings and Other Charges.”

Equity Method Investments

In accordance with ASC 810 "Consolidation," the Company determined that INOVA Geophysical is a variable interest entity because the Company's voting rights with respect to INOVA Geophysical are not proportionate to its ownership interest and substantially all of INOVA Geophysical's activities are conducted on behalf of the Company and BGP, a related party to the Company. The Company is not the primary beneficiary of INOVA Geophysical because it does not have the power to direct the activities of INOVA Geophysical that most significantly impact its economic performance. Accordingly, the Company does not consolidate INOVA Geophysical, but instead accounts for INOVA Geophysical using the equity method of accounting. Under this method, an investment is carried at the acquisition cost, plus the Company's equity in undistributed earnings or losses since acquisition, less distributions received. As provided by ASC 815 "Investments," the Company accounted for its share of earnings in INOVA Geophysical on a one fiscal quarter lag basis. See further discussion regarding the Company's equity method investment, including the full write-down of its investment in 2014, in INOVA Geophysical at Footnote 15 "Equity Method Investments."

Noncontrolling Interests

The Company has non-redeemable noncontrolling interests. Non-redeemable noncontrolling interests in majority-owned affiliates are reported as a separate component of equity in "Noncontrolling interests" in the Consolidated Balance Sheets. Redeemable noncontrolling interests include noncontrolling ownership interests which provide the holders the rights, at certain times, to require the Company to acquire their ownership interest in those entities. These interests are not considered to be permanent equity and are reported in the mezzanine section of the Consolidated Balance Sheets at the greater of their carrying value or redemption value at the balance sheet date. Net loss in the Consolidated Statements of Operations is attributable to both controlling and noncontrolling interests.

Goodwill and Other Intangible Assets

Goodwill is allocated to reporting units, which are either the operating segment or one reporting level below the operating segment. For purposes of performing the impairment test for goodwill as required by ASC 350 "Intangibles — Goodwill and Other," ("ASC 350") the Company established the following reporting units: Solutions, Software, Ocean Bottom Services and Marine Systems.

In accordance with ASC 350, the Company is required to evaluate the carrying value of its goodwill at least annually for impairment, or more frequently if facts and circumstances indicate that it is more likely than not impairment has occurred. The Company formally evaluates the carrying value of its goodwill for impairment as of December 31 for each of its reporting units. The Company first performs a qualitative assessment by evaluating relevant events or circumstances to determine whether it is more likely than not that the fair value of a reporting unit exceeds its carrying amount. If the Company is unable to conclude qualitatively that it is more likely than not that a reporting unit's fair value exceeds its carrying value, then it will use a two-step quantitative assessment of the fair value of a reporting unit. To determine the fair value of these reporting units, the Company uses a discounted future returns valuation model, which includes a variety of level 3 inputs. The key inputs for the model include the operational three-year forecast for the Company and the then-current market discount factor. Additionally, the Company compares the sum of the estimated fair values of the individual reporting units less consolidated debt to the Company's overall market capitalization as reflected by the Company's stock price. If the carrying value of a reporting unit that includes goodwill is determined to be more than the fair value of the reporting unit, there exists the possibility of impairment of goodwill. An impairment loss of goodwill is measured in two steps by first allocating the fair value of the reporting unit to net assets and liabilities including recorded and unrecorded intangible assets to determine the implied carrying value of goodwill. The next step is to measure the difference between the carrying value of goodwill and the implied carrying value of goodwill, and, if the implied carrying value of goodwill is less than the carrying value of goodwill, an impairment loss is recorded equal to the difference. See further discussion below at Footnote 10 "Goodwill."

The intangible assets, other than goodwill, relate to customer relationships. The Company amortizes its customer relationship intangible assets on an accelerated basis over a 10- to 15-year period, using the undiscounted cash flows of the initial valuation models. The Company uses an accelerated basis as these intangible assets were initially valued using an income approach, with an attrition rate that resulted in a pattern of declining cash flows over a 10- to 15-year period.

Following the guidance of ASC 360 "Property, Plant and Equipment," the Company reviews the carrying values of these intangible assets for impairment if events or changes in the facts and circumstances indicate that their carrying value may not be recoverable. Any impairment determined is recorded in the current period and is measured by comparing the fair value of the related asset to its carrying value. See further discussion below at Footnote 9 "Details of Selected Balance Sheet Accounts — Intangible Assets."

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Fair Value of Financial Instruments

The Company's financial instruments include cash and cash equivalents, short-term investments, accounts and unbilled receivables, accounts payable, accrued multi-client data library royalties and long-term debt. The carrying amounts of cash and cash equivalents, short-term investments, accounts and unbilled receivables, accounts payable and accrued multi-client data library royalties approximate fair value due to the highly liquid nature of these instruments. The fair value of the long-term debt is calculated using a market approach based upon Level 1 inputs, including an active market price.

Revenue Recognition

The Company derives revenue from the sale of (i) multi-client and proprietary surveys, licenses of "on-the-shelf" data libraries and imaging services within its Solutions segment; (ii) seismic data acquisition systems and other seismic equipment within its Systems segment; (iii) seismic command and control software systems and software solutions for operations management within its Software segment; and (iv) fully-integrated ocean bottom seismic ("OBS") solutions that include survey design and planning and data acquisition within its Ocean Bottom Services segment. All revenues of the Solutions and Ocean Bottom Services segments and the services component of revenues for the Software segment are classified as services revenues. All other revenues are classified as product revenues.

Multi-Client and Proprietary Surveys, Data Libraries and Imaging Services — As multi-client surveys are being designed, acquired and/or processed (referred to as the "new venture" phase), the Company enters into non-exclusive licensing arrangements with its customers. License revenues from these new venture survey projects are recognized during the new venture phase as the seismic data is acquired and/or processed on a proportionate basis as work is performed. Under this method, the Company recognizes revenues based upon quantifiable measures of progress, such as kilometers acquired or days processed. Upon completion of a multi-client seismic survey, the seismic survey is considered "on-the-shelf," and licenses to the survey data are granted to customers on a non-exclusive basis. Revenues on licenses of completed multi-client data surveys are recognized when (a) a signed final master geophysical data license agreement and accompanying supplemental license agreement are returned by the customer; (b) the purchase price for the license is fixed or determinable; (c) delivery or performance has occurred; (d) and no significant uncertainty exists as to the customer's obligation, willingness or ability to pay. In limited situations, the Company has provided the customer with a right to exchange seismic data for another specific seismic data set. In these limited situations, the Company recognizes revenue at the earlier of the customer exercising its exchange right or the expiration of the customer's exchange right.

The Company also performs seismic surveys under contracts to specific customers, whereby the seismic data is owned by those customers. Revenue is recognized as the seismic data is acquired and/or processed on a proportionate basis as work is performed. The Company uses quantifiable measures of progress consistent with its multi-client surveys. Revenues from all imaging and other services are recognized when (a) persuasive evidence of an arrangement exists, (b) the price is fixed or determinable, and (c) collectability is reasonably assured. Revenues from contract services performed on a dayrate basis are recognized as the service is performed.

Acquisition Systems and Other Seismic Equipment — For the sales of acquisition systems and other seismic equipment, the Company follows the requirements of ASC 605-10 "Revenue Recognition" and recognizes revenue when (a) evidence of an arrangement exists; (b) the price to the customer is fixed and determinable; (c) collectibility is reasonably assured; and (d) the acquisition system or other seismic equipment is delivered to the customer and risk of ownership has passed to the customer, or, in the case in which a substantive customer-specified acceptance clause exists in the contract, the later of delivery or when the customer-specified acceptance is obtained.

Software — For the sales of navigation, survey and quality control software systems, the Company follows the requirements of ASC 985-605 "Software Revenue Recognition" ("ASC 985-605"). The Company recognizes revenue from sales of these software systems when (a) evidence of an arrangement exists; (b) the price to the customer is fixed and determinable; (c) collectibility is reasonably assured; and (d) the software is delivered to the customer and risk of ownership has passed to the customer, or, in the limited case in which a substantive customer-specified acceptance clause exists, the later of delivery or when the customer-specified acceptance is obtained. These arrangements generally include the Company providing related services, such as training courses, engineering services and annual software maintenance. The Company allocates revenue to each element of the arrangement based upon

vendor-specific objective evidence (“VSOE”) of fair value of the element or, if VSOE is not available for the delivered element, the residual method.

In addition to perpetual software licenses, the Company offers time-based software licenses. For time-based licenses, the Company recognizes revenue ratably over the contract term, which is generally two to five years.

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Ocean Bottom Services — The Company recognizes revenues as they are realized and earned and can be reasonably measured, based on contractual dayrates or on a fixed-price basis, and when collectability is reasonably assured. In connection with acquisition contracts, the Company may receive revenues for preparation and mobilization of equipment and personnel or for capital improvements to vessels. The Company defers the revenues earned and incremental costs incurred that are directly related to contract preparation and mobilization and recognizes such revenues and costs over the primary contract term of the acquisition project. The Company uses the ratio of square kilometers acquired as a percentage of the total square kilometers expected to be acquired over the primary term of the contract to recognize deferred revenues and amortize, in cost of services, the costs related to contract preparation and mobilization. The Company recognizes the costs of relocating vessels without contracts to more promising market sectors as such costs are incurred. Upon completion of acquisition contracts, the Company recognizes in earnings any demobilization fees received and expenses incurred.

Multiple-element Arrangements — When separate elements (such as an acquisition system, other seismic equipment and/or imaging and acquisition services) are contained in a single sales arrangement, or in related arrangements with the same customer, the Company follows the requirements of ASC 605-25 “Accounting for Multiple-Element Revenue Arrangement” (“ASC 605-25”).

This guidance requires that arrangement consideration be allocated at the inception of an arrangement to all deliverables using the relative selling price method. The Company allocates arrangement consideration to each deliverable qualifying as a separate unit of accounting in an arrangement based on its relative selling price. The Company determines its selling price using VSOE, if it exists, or otherwise third-party evidence (“TPE”). If neither VSOE nor TPE of selling price exists for a unit of accounting, the Company uses estimated selling price (“ESP”). The Company generally expects that it will not be able to establish TPE due to the nature of the markets in which the Company competes, and, as such, the Company typically will determine its selling price using VSOE or, if not available, ESP. VSOE is generally limited to the price charged when the same or similar product is sold on a standalone basis. If a product is seldom sold on a standalone basis, it is unlikely that the Company can determine VSOE for the product.

The objective of ESP is to determine the price at which the Company would transact if the product were sold by the Company on a standalone basis. The Company’s determination of ESP involves a weighting of several factors based on the specific facts and circumstances of the arrangement. Specifically, the Company considers the anticipated margin on the particular deliverable, the selling price and profit margin for similar products and the Company’s ongoing pricing strategy and policies.

Product Warranty — The Company generally warrants that its manufactured equipment will be free from defects in workmanship, materials and parts. Warranty periods generally range from 30 days to three years from the date of original purchase, depending on the product. The Company provides for estimated warranty as a charge to costs of sales at the time of sale. However, new information may become available, or circumstances (such as applicable laws and regulations) may change, thereby resulting in an increase or decrease in the amount required to be accrued for such matters (and therefore a decrease or increase in reported net income in the period of such change). In limited cases, the Company has provided indemnification of customers for potential intellectual property infringement claims relating to products sold.

Research, Development and Engineering

Research, development and engineering costs primarily relate to activities that are designed to improve the quality of the subsurface image and overall acquisition economics of the Company’s customers. The costs associated with these activities are expensed as incurred. These costs include prototype material and field testing expenses, along with the related salaries and stock-based compensation, facility costs, consulting fees, tools and equipment usage and other miscellaneous expenses associated with these activities.

Stock-Based Compensation

The Company accounts for stock-based compensation under the provisions of ASC 718, “Compensation – Stock Compensation” (“ASC 718”). The Company estimates the value of stock option awards on the date of grant using the Black-Scholes option pricing model. The determination of the fair value of stock-based payment awards on the date of grant using an option-pricing model is affected by the Company’s stock price as well as assumptions regarding a

number of subjective variables. These variables include, but are not limited to, expected stock price volatility over the term of the awards, actual and projected employee stock option exercise behaviors, risk-free interest rate and expected dividends. The Company recognizes stock-based compensation on the straight-line basis over the service period of each award (generally the award's vesting period).

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Income Taxes

Income taxes are accounted for under the liability method. Deferred income tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases, including operating loss and tax credit carryforwards. Deferred income tax assets and liabilities are measured using enacted tax rates expected to apply in the years in which those temporary differences are expected to be recovered or settled. The Company records a valuation allowance when it is more likely than not that all or a portion of deferred tax assets will not be realized (see Footnote 6 “Income Taxes”). The effect on deferred income tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date.

Comprehensive Net Loss

Comprehensive net loss as shown in the Consolidated Statements of Comprehensive Loss and the balance in Accumulated Other Comprehensive Loss as shown in the Consolidated Balance Sheets as of December 31, 2015 and 2014, consist of foreign currency translation adjustments, equity interest in INOVA Geophysical’s accumulated other comprehensive loss and unrealized gains or losses on available-for-sale securities.

Foreign Currency Gains and Losses

Assets and liabilities of the Company’s subsidiaries operating outside the United States that have a functional currency other than the U.S. dollar have been translated to U.S. dollars using the exchange rate in effect at the balance sheet date. Results of foreign operations have been translated using the average exchange rate during the periods of operation. Resulting translation adjustments have been recorded as a component of Accumulated Other Comprehensive Loss. Foreign currency transaction gains and losses are included in the Consolidated Statements of Operations in Other income (expense) as they occur. Total foreign currency transaction losses were $2.1 million, $1.8 million and $1.1 million for 2015, 2014 and 2013, respectively.

Concentration of Foreign Sales Risk

The majority of the Company’s foreign sales are denominated in U.S. dollars. For 2015, 2014 and 2013, international sales comprised 66%, 74% and 73%, respectively, of total net revenues. In the fourth quarter of 2015, crude oil prices dropped by approximately 50%–70% as the non-U.S. economic outlook continues to weaken, North American production continues to expand, and more recently, Saudi Arabia has publicly stated its intention to support its global market share at the expense of lower prices. The decline in crude oil prices, as well as U.S. and European Union sanctions against Russia related to its actions in Ukraine, have both contributed to the devaluation of the Russian ruble putting significant pressure on the Company’s Russian-based customers and negatively impacting the appeal of seismic data located in Russia to potential non-Russian buyers. During 2015, the Russian ruble continued to decline sharply in the back half of the year and into January 2016, reaching its lowest level since the currency was redenominated in 1998. The Company’s results of operations, liquidity and financial condition related to its operations in Russia are primarily denominated in U.S. dollars. To the extent that world events or economic conditions negatively affect the Company’s future sales to customers in many regions of the world, as well as the collectability of the Company’s existing receivables, the Company’s future results of operations, liquidity and financial condition would be adversely affected.

Retroactive Reverse Stock Split

All numbers of shares of common stock and per share common stock data in the accompanying consolidated financial statements and related notes have been retroactively adjusted to reflect a one-for-fifteen reverse stock split for all periods presented. See further discussion below at Footnote 11 “Stockholders' Equity and Stock-based Compensation — Reverse Stock Split and Increase in Authorized Shares.”

(2) Cost Reduction Initiatives, Impairments, Restructurings and Other Charges

The continuing decline in oil prices and the depressed level of natural gas prices have negatively impacted the economic outlook of the Company’s exploration and production (“E&P”) company customers, which has also negatively impacted the outlook for the Company’s seismic contractor customers. In response to the decline in crude oil prices, E&P companies have reduced their capital expenditures and shifted their spending from exploration to production-related activities on existing assets. Seismic spending is discretionary; therefore, E&P companies have

disproportionately cut their spending on seismic-related services and products.

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2015 Cost Reduction Initiatives

During 2015, the Company continued its cost reduction initiatives by (i) centralizing the Company's global data processing capabilities to two core geographical hubs in the U.S. and the U.K., (ii) reducing the Company's marine repair infrastructure to two locations in the U.S and U.A.E., (iii) making further reductions in personnel across all of the Company's segments primarily in the third quarter 2015 that, combined with reductions starting in December 2014 and continuing through the first nine months of 2015, have reduced the Company's full-time employee base by approximately 50% and (iv) reducing salaries by 10% for the majority of the Company's employees during 2015.

During 2015, the Company recognized the following pre-tax charges and credits (in thousands):

	severance charges[a]	Facility charges(b)	Total
Cost of goods sold	$3,981	$—	$3,981
Operating expenses	1,910	1,323	3,233
Other (income) expense	—	1,618	1,618
Income tax benefit	(119)	(150)	(269)
Net income attributable to noncontrolling interest	(172)	—	(172)
Consolidated total	$5,600	$2,791	$8,391

(a) Represents severance charges related to 2015 restructurings, a portion of which relates to a noncontrolling interest.

(b) Represents facility charges related to 2015 restructurings.

2014 Restructuring

In the fourth quarter of 2014, the Company initiated restructurings across all of its segments, except for its Ocean Bottom Services segment. This restructuring involved the reduction of headcount in all those segments by approximately 10%. The Company incurred a total of $2.3 million of severance charges, paid out in 2015.

During 2014, the Company re-evaluated the realizability of certain inventory and receivables. The Company wrote down inventory by recording $7.0 million of charges related to excess and obsolete inventory and wrote down certain receivables totaling $8.2 million, which includes receivables due from INOVA Geophysical. During 2015, the Company recognized the following pre-tax charges and credits (in thousands):

	Multi-client data library, net	Equity method investments[a]	Goodwill and Intangible Assets[b]	Asset write-downs and other	Severance charges	Total
Cost of goods sold	$100,100	$ —	$—	$ 8,051	$391	$108,542
Operating expenses	—	—	23,284	8,214 [c]	1,902	33,400
Equity in earnings (losses) of investments	—	34,199	—	—	—	34,199
Consolidated total	$100,100	$ 34,199	$23,284	$ 16,265	$2,293	$176,141

(a) Represents the full write-down of the Company's equity method investment in INOVA Geophysical of $30.7 million, in addition to the Company's share of charges related to excess and obsolete inventory and customer bad debts of $3.5 million. For a discussion of the Company's impairment of its equity method investment, see Footnote 15 "Equity Method Investments" of the Footnotes to Consolidated Financial Statements contained elsewhere in this Annual Report on Form 10-K.

(b) Includes an impairment of the goodwill on the Company's Marine Systems reporting unit and an impairment of certain intangible assets. For a discussion of the impairment of the goodwill, see Footnote 10 "Goodwill." For a discussion of the impairment of the intangible asset, see Footnote 9 "Details of Selected Balance Sheet Accounts."

(c) Includes outstanding receivables from INOVA Geophysical of $5.5 million.

2013 Restructuring

In the third quarter of 2013, the Company initiated a restructuring of its Systems segment. This restructuring involved the closing of certain manufacturing facilities and a reduction of headcount in those and other facilities.

As of September 30, 2013, the Company had reduced its employee headcount in its Systems segment by 31% of the total Systems full-time employee headcount. Of the total amount expensed in 2013, $3.7 million is included in cost of sales, with the remaining $1.9 million included in operating expenses.

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During 2013, the Company recognized the following pre-tax charges related to its Systems segment restructuring activity (in thousands):

	Facility charges	Severance charges	Asset write-downs and other	Total
Cost of goods sold	$647	$3,729	$21,351	$25,727
Operating expenses	$—	$1,873	$383	$2,256
Consolidated total	$647	$5,602	$21,734	$27,983

Impairment of Multi-client Data Library

During 2014, the Company wrote down the multi-client data library, primarily associated with Arctic and onshore North American programs, by $100.1 million after it was determined that estimated future cash flows would not be sufficient to recover the carrying value due to then current market conditions. The reductions in exploration spending, discussed above, have had an impact on the Company's results of operations for 2014, especially those of its Solutions segment. Sales of Arctic programs have been specifically impacted by recent events in Russia. The decline in crude oil prices, as well as U.S. and European Union sanctions against Russia related to its actions in Ukraine, have both contributed to the devaluation of the Russian ruble putting significant pressure on the Company's Russian-based customers and negatively impacting the appeal of seismic data located in Russia to potential non-Russian buyers. In North America, the land seismic market continues to experience softness. E&P customer spending in the natural gas shale plays has been limited due to associated gas being produced from unconventional oil wells in North America increasing natural gas supplies putting downward pressure on U.S. natural gas prices.

This impairment of the Company's multi-client data library was recorded because the net capitalized costs exceeded the fair value of the multi-client data library as measured by estimated future cash flows. The fair values of the individual libraries were measured using valuation techniques consistent with the income approach, converting future cash flows to a single discounted amount. Significant inputs used to determine the fair values of the libraries included estimates of: (i) revenues; (ii) future costs including royalties; and (iii) an appropriate discount rate. In order to estimate future cash flows, the Company considered historical cash flows, existing and future contracts and changes in the market environment and other factors that may affect future cash flows. To the extent applicable, the assumptions the Company used are consistent with forecasts that it is otherwise required to make (for example, in preparing its earnings forecasts). The use of this method involves inherent uncertainty. The Company has determined that the fair value measurements of this nonfinancial asset are level 3 in the fair value hierarchy.

In 2013, the Company wrote down the multi-client data library by $5.5 million primarily due to cost overruns, which resulted in costs exceeding the sales forecast, triggering the impairment.

(3) Segment and Geographic Information

The Company evaluates and reviews its results based on four segments: Solutions, Systems, Software and Ocean Bottom Services. The Company measures segment operating results based on income (loss) from operations. In addition, the Company has an equity ownership interest its INOVA Geophysical joint venture. See Footnote 15 "Equity Method Investments" for the summarized financial information for INOVA Geophysical.

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A summary of segment information follows (in thousands):

	Years Ended December 31,			
	2015	2014		2013
Net revenues:				
Solutions:				
New Venture	$48,294	$98,649		$154,578
Data Library	63,326	66,180		111,998
Total multi-client revenues	111,620	164,829		266,576
Data Processing	45,630	113,075		120,808
Total	$157,250	$277,904		$387,384
Systems:				
Towed Streamer	$15,016	$43,995		$66,991
Ocean Bottom Equipment	—	—		7,307
Other	21,253	44,422		48,134
Total	$36,269	$88,417		$122,432
Software:				
Software Systems	$24,764	$36,203		$35,418
Services	3,230	3,790		3,933
Total	$27,994	$39,993		$39,351
Ocean Bottom Services	$—	$103,244		$—
Total	$221,513	$509,558		$549,167
Gross profit (loss):				
Solutions	$13,508	$(24,345)	(a)	$111,108
Systems	10,829	29,829	(b)	19,999
Software	17,937	28,835		28,206
Ocean Bottom Services	(34,271)	27,904		—
Total	$8,003	$62,223		$159,313
Gross margin:				
Solutions	9%	(9)%		29%
Systems	30%	34%		16%
Software	64%	72%		72%
Ocean Bottom Services	—%	27%		—%
Total	4%	12%		29%
Income (loss) from operations:				
Solutions	$(28,916)	$(80,653)	(a)	$61,146
Systems	(2,735)	(23,521)	(b)	(9,957)
Software	9,748	20,212		23,602
Ocean Bottom Services	(40,756)	19,070		—
Corporate and other	(37,973)	(53,037)		(58,395)
Income (loss) from operations	(100,632)	(117,929)		16,396
Interest expense, net	(18,753)	(19,382)		(12,344)
Equity in losses of investments	—	(49,485)		(42,320)
Other income (expense)	98,275	79,860		(182,530)
Loss before income taxes	$(21,110)	$(106,936)		$(220,798)

(a) Includes a charge of $100.1 million to write down the multi-client data library, impacting gross profit (loss), in addition to charges for the impairment of intangible assets and severance-related charges within the Solutions segment.

(b) Includes a charge of $21.9 million to write down goodwill, impacting income (loss) from operations, in addition to charges for write-downs of inventory and receivables and severance-related charges within the Systems segment.

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	Years Ended December 31,		
	2015	2014	2013
Depreciation and amortization (including multi-client data library):			
Solutions	$51,014	$80,138	$99,774
Systems	1,678	1,860	2,665
Software	1,191	989	699
Ocean Bottom Services	6,158	6,517	—
Corporate and other	2,270	2,526	1,736
Total	$62,311	$92,030	$104,874

	December 31,	
	2015	2014
Total assets:		
Solutions	$243,067	$265,505
Systems	60,064	84,465
Software	38,097	38,479
Ocean Bottom Services	35,792	56,637
Corporate and other	61,396	172,171
Total	$438,416	$617,257

A summary of total assets by geographic area follows (in thousands):

	December 31,	
	2015	2014
Total assets by geographic area:		
North America	$229,175	$347,419
Europe	84,392	117,622
Middle East	75,390	96,532
Latin America	35,349	36,529
Other	14,110	19,155
Total	$438,416	$617,257

Intersegment sales are insignificant for all periods presented. Corporate assets include all assets specifically related to corporate personnel and operations, a majority of cash and cash equivalents. Depreciation and amortization expense is allocated to segments based upon use of the underlying assets.

A summary of net revenues by geographic area follows (in thousands):

	Years Ended December 31,		
	2015	2014	2013
Net revenues by geographic area:			
North America	$74,634	$130,224	$150,160
Europe	72,577	100,188	198,977
Asia Pacific	19,135	49,881	52,672
Latin America	16,406	111,078	54,008
Middle East	14,571	39,142	63,157
Africa	13,182	75,507	16,474
Commonwealth of Independent States	11,008	3,538	13,719
Total	$221,513	$509,558	$549,167

Net revenues are attributed to geographic areas on the basis of the ultimate destination of the equipment or service, if known, or the geographic area imaging services are provided. If the ultimate destination of such equipment is not known, net revenues are attributed to the geographic area of initial shipment.

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(4) Long-term Debt and Lease Obligations

Obligations (in thousands)	December 31, 2015	2014
Senior secured second-priority notes	175,000	175,000
Equipment capital leases	9,762	15,059
Other debt obligations	1,558	535
Total	186,320	190,594
Current portion of long-term debt and lease obligations	(7,912)	(7,649)
Non-current portion of long-term debt and lease obligations	$178,408	$182,945

Revolving Credit Facility

In August 2014, ION and its material U.S. subsidiaries, ION Exploration Products (U.S.A.), Inc., I/O Marine Systems, Inc. and GX Technology Corporation (collectively, the “Subsidiary Borrowers”), entered into a credit facility (the “Credit Facility”).

The terms of the Credit Facility are set forth in a revolving credit and security agreement dated as of August 22, 2014, among the borrowers, the lenders party thereto and PNC Bank, National Association (“PNC”), as agent for the lenders. The Credit Facility provided a maximum amount of revolving line of credit of $80.0 million, subject to a borrowing base for revolving credit borrowings, calculated using a formula based on eligible receivables, eligible inventory and other amounts.

The obligations of the Company under the Credit Facility are secured by a first-priority security interest in 100% of the stock of the Subsidiary Borrowers and 65% of the equity interests in ION International Holdings L.P. and by substantially all other assets of the borrowers.

On August 4, 2015, the Company and the Subsidiary Borrowers amended the terms of the Credit Facility pursuant to a First Amendment to Revolving Credit and Security Agreement dated effective as of August 4, 2015 (the “First Amendment”). The First Amendment contemplated, among other things, (i) PNC becoming the sole lender under the Credit Facility, (ii) the reduction of the maximum amount of the revolving line of credit under the Credit Facility from $80.0 million to $40.0 million, (iii) the elimination of the requirement that the Company not exceed a maximum senior secured leverage ratio, (iv) the amendment of the borrowing base formula under the Credit Facility and (v) the removal of the accordion features under the Credit Facility.

Prior to the First Amendment, the revolving credit and security agreement contemplated maximum credit facilities of up to $175.0 million in the aggregate, consisting of (i) a revolving facility of up to $125.0 million, to which the lenders had committed $80.0 million (with availability under such revolving facility subject at all times to a borrowing base and other conditions to borrowing) and up to an additional $45.0 million of which was subject to the implementation of certain accordion provisions and (ii) an uncommitted term facility in an aggregate amount of up to $50.0 million on terms to be mutually agreed at a later date and subject to receiving commitments of lenders to such term facility.

The borrowing base under the First Amendment will increase or decrease monthly using an amended formula based on certain eligible receivables, eligible inventory and other amounts, including a percentage of the net orderly liquidation value of the Company's multi-client data library (not to exceed $15.0 million for the multi-client data library data component). At December 31, 2015, the borrowing base under the Credit Facility was $40.0 million, and there was no outstanding indebtedness under the Credit Facility.

The Credit Facility, as amended, contains covenants that, among other things, restrict the Company, subject to certain exceptions, from incurring additional indebtedness (including capital lease obligations), granting or incurring additional liens on the Company’s properties, pledging shares of the Company’s subsidiaries, entering into certain merger or other change-in-control transactions, entering into transactions with the Company’s affiliates, making certain sales or other dispositions of the Company’s assets, making certain investments, acquiring other businesses and entering into sale-leaseback transactions with respect to the Company’s property.

In addition, the terms of our Credit Facility contain covenants that restrict the Company from paying cash dividends on it's common stock, or repurchasing or acquiring shares of it's common stock, unless (i) there is no event of default under the Credit Facility, (ii) there is excess availability under the Credit Facility greater than $20.0 million (or, at the time that the borrowing base formula amount is less than $20.0 million, the borrowers' level of liquidity (as defined in the revolving credit and security agreement) is greater than $20.0 million) and (iii) the agent receives satisfactory projections showing that excess availability under the Credit Facility for the immediately following period of ninety (90) consecutive days will not be less than $20.0 million (or, at the time that the borrowing base formula amount is less than $20.0 million, the borrowers' level of liquidity is greater than $20.0 million). The aggregate amount of permitted cash dividends and stock repurchases may not exceed $10.0 million in any fiscal year or $40.0 million in the aggregate from and after the closing date of the Credit Facility.

The Credit Facility, as amended, requires that ION and the Subsidiary Borrowers maintain a minimum fixed charge coverage ratio of 1.1 to 1.0 as of the end of each fiscal quarter during the existence of a covenant testing trigger event. The fixed charge coverage ratio is defined as the ratio of (i) ION's EBITDA, minus unfunded capital expenditures made during the relevant period, minus distributions (including tax distributions) and dividends made during the relevant period, minus cash taxes paid during the relevant period, to (ii) certain debt payments made during the relevant period. A covenant testing trigger event occurs upon (a) the occurrence and continuance of an event of default under the Credit Facility or (b) the failure to maintain a measure of liquidity greater than (i) $5.0 million for five consecutive business days or (ii) $4.0 million on any given business day. Liquidity, as defined in the Credit Facility, is the Company's excess availability to borrow ($40.0 million at December 31, 2015) plus the aggregate amount of unrestricted cash held by ION, the Subsidiary Borrowers and their domestic subsidiaries.

At December 31, 2015 the Company was in compliance with all of the covenants under the Credit Facility.

The Credit Facility, as amended, contains customary event of default provisions (including a "change of control" event affecting ION), the occurrence of which could lead to an acceleration of the Company's obligations under the Credit Facility as amended.

Senior Secured Second-Priority Notes

In May 2013, the Company sold $175.0 million aggregate principal amount of 8.125% Senior Secured Second-Priority Notes due 2018 ("Notes") in a private offering pursuant to an Indenture dated as of May 13, 2013. The Notes are senior secured second-priority obligations of the Company, are guaranteed by certain of the Company's U.S. subsidiaries, and mature on May 15, 2018. Interest on the Notes accrues at the rate of 8.125% per annum and will be payable semiannually in arrears on May 15 and November 15 of each year during their term. In May 2014, the holders of the Notes exchanged their Notes for a like principal amount of registered Notes with the same terms.

On or after May 15, 2015, the Company may on one or more occasions redeem all or a part of the Notes at the redemption prices set forth below, plus accrued and unpaid interest and special interest, if any, on the Notes redeemed during the 12-month period beginning on May 15th of the years indicated below:

Date	Percentage
2015	104.063%
2016	102.031%
2017 and thereafter	100.000%

The Notes are initially jointly and severally guaranteed on a senior secured basis by each of the Company's current material U.S. subsidiaries: GX Technology Corporation, ION Exploration Products (U.S.A.), Inc. and I/O Marine Systems, Inc. (the "Notes Guarantors"). The Notes and the guarantees are secured, subject to certain exceptions and permitted liens, by second-priority liens on substantially all of the assets that secure the indebtedness under the Credit Facility, as amended (see "– Revolving Credit Facility" above). The indebtedness under the Notes is effectively junior to the Company's obligations under the Credit Facility to the extent of the value of the collateral securing the Credit Facility, and to any other indebtedness secured on a first-priority basis to the extent of the value of the Company's assets subject to those first-priority security interests.

The Notes contain certain covenants that, among other things, limit or prohibit the Company's ability and the ability of its restricted subsidiaries to take certain actions or permit certain conditions to exist during the term of the Notes, including among other things, incurring additional indebtedness, creating liens, paying dividends and making other

distributions in respect of the Company’s capital stock, redeeming the Company’s capital stock, making investments or certain other restricted payments, selling certain kinds of assets, entering into transactions with affiliates, and effecting mergers or consolidations, in aggregate not to exceed at any one time $25.0 million. These and other restrictive covenants contained in the Indenture are subject to certain exceptions and qualifications.

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These and other restrictive covenants contained in the Indenture are subject to certain exceptions and qualifications. All of the Company's subsidiaries are currently restricted subsidiaries. As of December 31, 2015, the Company was in compliance with these covenants.

Equipment Capital Leases

The Company has entered into capital leases that are due in installments for the purpose of financing the purchase of computer equipment through 2019. Interest accrues under these leases at rates of up to 9.4% per annum, and the leases are collateralized by liens on the computer equipment. The assets are amortized over the lesser of their related lease terms or their estimated productive lives and such charges are reflected within depreciation expense.

A summary of future principal obligations under long-term debt and equipment capital lease obligations follows (in thousands):

Years Ended December 31,	Long-Term Debt	Capital Lease Obligations	Other Financing
2016	$ —	$6,354	$1,558
2017	—	3,129	—
2018	175,000	250	—
2019	—	29	—
2020	—	—	—
Thereafter	—	—	—
Total	$ 175,000	$9,762	$1,558

(5) Net Income (Loss) per Common Share

Basic net income (loss) per common share is computed by dividing net (loss) applicable to common shares by the weighted average number of common shares outstanding during the period. Diluted net income (loss) per common share is determined based on the assumption that dilutive restricted stock and restricted stock unit awards have vested and outstanding dilutive stock options have been exercised and the aggregate proceeds were used to reacquire common stock using the average price of such common stock for the period. The total number of shares issuable under anti-dilutive options at December 31, 2015, 2014 and 2013 were 560,797, 599,068 and 550,567, respectively. All outstanding stock options for the twelve months ended December 31, 2015, 2014 and 2013 were anti-dilutive. The total number of shares issuable under anti-dilutive options above have been retroactively adjusted to reflect the one-for-fifteen reverse stock split completed on February 4, 2016.

Prior to September 30, 2013, there were 27,000 shares outstanding of the Company's Series D Cumulative Convertible Preferred Stock ("Series D Preferred Stock"). On September 30, 2013, the holder of all of the outstanding shares of Series D Preferred Stock converted those shares into 404,338 shares of common stock. The number of shares of common stock received as a result of the conversion of the Series D Cumulative Convertible Preferred Stock has been retroactively adjusted to reflect the one-for-fifteen reverse stock split completed on February 4, 2016. The effects of the outstanding shares of all Series D Preferred Stock were anti-dilutive for the year ended December 31, 2013.

(6) Income Taxes

The sources of income (loss) before income taxes are as follows (in thousands):

	Years Ended December 31,		
	2015	2014	2013
Domestic	$21,065	$(162,151)	$(221,185)
Foreign	(42,175)	55,215	387
Total	$(21,110)	$(106,936)	$(220,798)

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Components of income taxes are as follows (in thousands):

	Years Ended December 31,		
	2015	2014	2013
Current:			
Federal	$(4,715)	$(678)	$4,113
State and local	41	(42)	485
Foreign	1,274	21,722	16,278
Deferred:			
Federal	2,726	1,004	4,012
Foreign	4,718	(1,424)	832
Total income tax expense	$4,044	$20,582	$25,720

A reconciliation of the expected income tax expense on income (loss) before income taxes using the statutory federal income tax rate of 35% for 2015, 2014 and 2013 to income tax expense follows (in thousands):

	Years Ended December 31,		
	2015	2014	2013
Expected income tax expense at 35%	$(7,389)	$(37,428)	$(77,279)
Foreign tax rate differential	1,769	(10,481)	(2,348)
Foreign tax differences	4,104	6,444	16,808
State and local taxes	41	(42)	485
Nondeductible expenses	578	(1,584)	(58)
Goodwill impairment	—	9,444	—
Expired Capital Loss	15,950		
Valuation allowance:			
Valuation allowance on equity in losses of INOVA Geophysical	—	17,644	7,871
Valuation allowance on expiring capital losses	(15,950)	—	—
Valuation allowance on operations	4,941	36,585	80,241
Total income tax expense	$4,044	$20,582	$25,720

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The company has adopted ASU 2015-17 on a prospective basis as of December 31, 2015. Prior year amounts have not been retrospectively adjusted. See Footnote 20 “Recent Accounting Pronouncement” of Footnotes to the Consolidated Financial Statements.

The tax effects of the cumulative temporary differences resulting in the net deferred income tax asset (liability) are as follows (in thousands):

	December 31,	
	2015	2014
Current deferred:		
Deferred income tax assets:		
Accrued expenses	$—	$6,495
Allowance accounts	—	7,076
Total current deferred income tax asset	—	13,571
Valuation allowance	—	(12,612)
Net current deferred income tax asset	—	959
Deferred income tax liabilities:		
Unbilled receivables	—	(6,865)
Total net current deferred income tax liability	$—	$(5,906)
Non-current deferred:		
Deferred income tax assets:		
Accrued expenses	$2,976	$—
Allowance Accounts	6,739	—
Net operating loss carryforward	95,640	61,227
Capital loss carryforward	2,434	18,385
Equity method investment	58,820	58,820
Basis in identified intangibles	5,978	9,263
Basis in research and development	7,051	3,819
Contingency accrual	7,700	43,319
Tax credit carryforwards and other	12,138	11,515
Total non-current deferred income tax asset	199,476	206,348
Valuation allowance	(194,255)	(192,652)
Net non-current deferred income tax asset	5,221	13,696
Deferred income tax liabilities:		
Unbilled receivables	(6,516)	—
Basis in property, plant and equipment	(3,439)	(5,082)
Total net non-current deferred income tax liability	$(4,734)	$8,614

During 2013 the Company established a valuation allowance on the substantial majority of U.S. net deferred tax assets due to the significant charges taken during the year and the related inability to rely on projections of future income. As of December 31, 2015, the Company has a full valuation allowance on all net U.S. deferred tax assets. The valuation allowance was calculated in accordance with the provisions of ASC 740-10, “Accounting for Income Taxes,” which requires that a valuation allowance be established or maintained when it is “more likely than not” that all or a portion of deferred tax assets will not be realized. The Company will continue to record a valuation allowance for the substantial majority of its deferred tax assets until there is sufficient evidence to warrant reversal.

At December 31, 2015, the Company had U.S. net operating loss carryforwards of approximately $204.9 million, expiring in 2034, and net operating loss carryforwards outside of the U.S. of approximately $90.1 million, the majority of which expires beyond 2027. At December 31, 2015, the Company also had