ION GEOPHYSICAL CORP
Form 10-K
February 24, 2014
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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, 2013
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 þ No ¨
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 þ Accelerated filer ¨ 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

As of June 28, 2013 (the last business day of the registrant's second quarter of fiscal 2012), the aggregate market value of the registrant's common stock held by non-affiliates of the registrant was $885.4 million based on the closing sale price per share ($6.02) on such date as reported on the New York Stock Exchange.

As of February 3, 2014, the number of shares of common stock, $0.01 par value, outstanding was 163,737,757 shares.

DOCUMENTS INCORPORATED BY REFERENCE

Document	Parts Into Which Incorporated
None	

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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

We are a global, technology-focused company that provides geophysical technology, services and solutions to the global oil & gas industry. Our offerings are designed to allow oil & gas exploration and production ("E&P") companies to obtain higher resolution images of the earth's subsurface during exploration, exploitation and production operations to reduce the risk in exploration and reservoir development, and to enable seismic contractors to acquire geophysical data safely and efficiently. We acquire and process seismic data from seismic surveys in regional data programs, which then become part of our seismic 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 new seabed acquisition joint venture, 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 in offshore and onshore operations around the world. We serve customers in all major energy producing regions of the world from strategically located offices in 21 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 services, technologies and products are used by E&P companies and seismic acquisition contractors 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 three business segments - Solutions, Systems and Software. In addition, we have a 49% ownership interest in our INOVA Geophysical Equipment Limited joint venture ("INOVA Geophysical," or "INOVA") and an ownership interest in our OceanGeo joint venture, which we increased from 30% to 70% in January 2014.

For over 45 years we have been engaged in providing innovative seismic data acquisition technology, such as full-wave imaging capability 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 Orca®, our WiBand™ data processing technology, Calypso®, Narwhal™ and INOVA Geophysical's cableless Hawk™ land system and new G3i®cabled system, and other technologies, each of which is designed to deliver improvements in both image quality and productivity. We have over 550 patents and pending patent applications in various countries around the world, approximately 51% of our employees are involved in technical roles and approximately 22% of our employees have advanced degrees.

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

Our GeoVentures services are designed to manage the entire seismic process, from survey planning and design to data acquisition and management, and to final subsurface imaging and reservoir characterization. The GeoVentures 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 GXT Imaging Solutions group offers processing and imaging services designed to help our E&P customers reduce exploration and production risk, evaluate and develop reservoirs, and increase production. GXT develops a series of subsurface images by applying its processing technology to data owned or licensed by its customers and also provides its customers with support services (including onboard seismic vessel systems), such as data pre-conditioning for imaging, and outsourced management (including quality control) of seismic data acquisition and image processing

services. We maintain approximately 10.5 petabytes of seismic data digital information storage in 12 global data centers, including our largest data center in Houston.

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 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.

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Software. Our Software business provides command and control software systems and related services for navigation and data management involving towed marine streamer and seabed operations. Our proprietary software, with over 13 million lines of code, is installed on towed streamer marine vessels worldwide and is a component of many re-deployable and permanent seabed monitoring systems. Through our Software business, we provide marine imaging, seabed imaging and survey design, planning and optimization.

During the third quarter of 2013, we announced the launch of our Narwhal system, which is designed to enable operators to gather, monitor, and analyze data from various sources, including satellite imagery, ice charts, radar, manual observations, wind and ocean currents, in order to forecast weather and predict ice movements in the harsh environments of the Arctic. We believe that this system will give operators the ability to better track, forecast, and monitor potential ice threats, and thereby make informed, proactive decisions to ensure the safety of individuals, assets, and the environment while minimizing operational downtime.

Systems. Our Systems business was affected by a restructuring of its product line in 2013, and is now engaged in the manufacture of (i) re-deployable ocean-bottom cable seismic data acquisition systems and shipboard recorders; (ii) marine towed streamer positioning and control systems and energy sources; and (iii) analog geophone sensors. See "Management's Discussion and Analysis of Financial Condition and Results of Operations - Restructuring and Other Charges."

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, cableless, and radio-controlled seismic data acquisition systems, digital sensors, vibroseis vehicles (i.e., vibrator trucks), and source controllers for detonator and energy sources business lines. INOVA's research and development centers are located primarily in the U.S. and Canada, although the joint venture has established a lower-cost manufacturing base in China for appropriate product sets. ION and BGP often field-test INOVA's new technologies and related equipment for operational feedback and quality improvements.

OceanGeo. In February 2013, we acquired a 30% ownership interest in the ocean-bottom seismic acquisition company GeoRXT B.V., which was subsequently renamed and rebranded as OceanGeo, with the remaining 70% owned by our joint venture partner, Georadar Levantamentos Geofisicos S/A ("Georadar"). In January 2014, we exercised our option to increase our ownership interest in OceanGeo to 70%, with Georadar owning the remaining 30%.

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 seabed 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 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 highly 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 may be either analog coil-spring geophones or digital accelerometers based on MEMS (micro-electro-mechanical systems) technology. 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 seabed. 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.

Typically, an E&P company engages the services of a geophysical acquisition company 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 data processing services 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.

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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 straight 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. 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.

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, which drove higher demand for our services and products. During the late 2000s 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 find" 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. Since then, however, West Texas Intermediate ("WTI") crude oil prices have recovered; WTI prices ranged between approximately $90 to $110 per barrel during 2013. Brent crude oil prices have also recovered and finished 2013 near $110 per barrel. North American natural gas prices have remained depressed relative to their 2008 levels, but during 2013 they traded in a range of $3.15 to $4.50 per MMBtu, ending the year at approximately $4.30 per MMBtu, according to the U.S. Energy Information Administration.

Our Strategy

The key elements of our business strategy are to:

- Leverage our key technologies to provide integrated solutions to oil & 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 is transforming itself from an equipment provider to a more integrated service provider, where leading equipment technologies are only part of our offering. Our recent ownership increase in OceanGeo is just one example of where ION is changing its go-to-market strategy, attempting to bundle many services as an integrated offering to customers who see large scale and experience as a differentiator. The growth in our Solutions segment is a testament to our executing on this strategy.

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- Expand and globalize our Solutions business. We seek to expand and grow our Solutions business to new regions, with new customers and new marine and land service offerings, including proprietary services for E&P companies. In addition, we intend to further globalize our Solutions data processing business by opening advanced imaging centers in strategic locations around the world and expanding our presence in land seismic processing where we believe onshore unconventional resource demand will drive the need for our products and services. While we anticipate continuing to grow and refine our seismic data equipment businesses in ocean-bottom marine (through OceanGeo) and land (through INOVA Geophysical), our emphasis on growth will continue to be in our Solutions segment's data processing and GeoVentures multi-client businesses. 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 GeoVentures multi-client projects. We believe this focus better positions our company as a full-service technology company with increasing revenues derived from E&P customers using our GXT data processing and GeoVentures services.
- Continue investing in advanced software and equipment technology to provide next generation products and services. 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 Calypso (the next generation of our ocean-bottom seismic data imaging technology), Narwhal (our ice management system), and derivative products, with the goal of obtaining technical and market leadership in what we continue to believe are important and expanding markets. In 2013, our investment in research and development was equal to approximately 7% 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 survey planning, 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 and our seismic contractor customers 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.
- Leverage our technical research and development experience and partner in market-leading joint ventures. Through INOVA Geophysical, we seek to combine our technical research and development experience and expertise with the operational experience and global reach of BGP. Further, we believe working with INOVA Geophysical will allow us to tap into a broader set of global geophysical opportunities associated with the exploration, asset development and production operations of BGP's parent, CNPC. Through our OceanGeo joint venture, we believe that we will be able to maximize the value of our R&D investments in the development of our Calypso ocean-bottom seismic acquisition technologies.

Our Strengths

We believe that we are well 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 & 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 is transforming itself from an equipment provider to a more integrated service provider, where leading equipment technologies are only part of our offering. Our recent ownership increase in OceanGeo is just one example of where ION is changing its go-to-market strategy, attempting to bundle many services as an integrated offering to customers who see large scale and experience as a differentiator. The growth in our Solutions segment is a testament to our executing to this strength.
- We are a broad-based seismic solutions provider engaged in providing advanced software and equipment technology. We are a technology-focused full-value-chain service provider with capabilities extending beyond the manufacture of seismic equipment. Our offerings span the entire seismic workflow, which includes survey planning and data acquisition, processing and interpretation. Our offerings include seismic data acquisition hardware, command and

control software, value-added services associated with seismic survey design, seismic data processing and interpretation, and seismic data libraries.

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- 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 our OceanGeo joint venture, we do not provide our own seismic crews to acquire marine or land seismic data. We outsource a majority of our seismic 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. 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 underwritten approximately 75% of the total cost of each new project's data acquisition. We believe this conservative approach to data library investment is the most prudent way to avoid risks of any sudden reduction in the demand for seismic data giving us the flexibility to aggressively reduce costs in the event of an 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 corporate 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 products and services 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 to include significantly more types of customers than seismic contractors. Whereas almost all of our revenues in 2003 were derived principally from seismic contracting companies, E&P companies accounted for approximately 62% of our total revenues in 2013. 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 2011, 2012 or 2013. We focus our sales and marketing efforts on high-quality, historically creditworthy customers.

Services and Products

Solutions Segment

Our Solutions segment includes the following:

GeoVentures — Our GeoVentures 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, GeoVentures has acquired and processed a growing multi-client seismic data library consisting of non-exclusive marine and ocean-bottom data from around the world. The majority of the data licensed by GeoVentures consists of ultra-deep 2-D seismic data that E&P companies use to evaluate petroleum systems 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, we recently 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.

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For land applications, we also develop 3-D onshore reservoir imaging and characterization programs to 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 are designed, acquired and depth-imaged using advanced geophysical technology and proprietary processing techniques, resulting in high-definition images of the subsurface. The workflow integrates upfront geological, petrophysical, and rock physics analysis to establish which seismic attributes best predict key reservoir properties and impact drilling and completions engineering decisions. The enhanced imaging and seismic attribute analyses enable operators to evaluate and address key challenges associated with geohazard identification and avoidance, reservoir characterization, and completions effectiveness. By the end of 2013, we had ten ResSCAN programs either complete or in progress in the U.S. with others planned or in development for other regions of the world.

Seismic Data Processing Services — Our GX Technology (GXT) group is a strong market participant in advanced land, and marine seismic data processing, imaging, and reservoir services. E&P companies utilize our solutions to produce high-quality subsurface images to reduce exploration and production risk, appraise and develop reservoirs, and increase production. In addition to applying its processing and imaging technologies to data owned or licensed by its customers, GXT also provides its customers with seismic data acquisition support services, such as data pre-conditioning for imaging and quality control of seismic data acquisition.

GXT utilizes 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. In 2013, GXT increased its service network capabilities in response to growing demand by opening a new data processing center in Perth, Australia, and by expanding its computing hub in Houston, which now features a cloud computing platform implemented within our corporate firewall and under the control of our IT department, or a "private cloud." Client demand for advanced imaging services such as GXT's fueled our decision to expand our footprint in the Asia Pacific region. In addition, GXT moved its Houston hub into a new, more efficient facility in 2013, increasing its computing capacity by 50%. The private cloud operation at this hub also provides this capacity to GXT's worldwide network of data processing centers.

GXT has pioneered several differentiated processing and imaging solutions for both offshore and onshore environments including: pre-stack depth migration ("PreSDM"), Reverse Time Migration ("RTM"), Surface Related Multiple Elimination (SRME), WiBand broadband deghosting and processing of seismic data. In 2013, GXT commercially released its Full Waveform Inversion (FWI) and General Move-out (GMO) Picking seismic 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 variations in the subject geology, such as often seen in and around salt formations. In areas such as the Gulf of Mexico and offshore Brazil, the ability to delineate salt bodies can not only save considerable manual time and effort, but also reduce drilling risk by producing a more accurate earth model and identification of exploration targets.

Quantitative Interpretation — The GXT 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 intensity within hydrocarbon reservoirs. Once understood, this information may be used for better well placement and more effective production techniques. In 2013, GXT expanded this business as a result of growing demand from clients for more holistic solutions, especially on land where companies are learning that use of seismic data and additional quantitative analysis (such as practiced offshore) are yielding more efficient exploration and development of unconventional reservoirs.

GXT has a broad portfolio of offerings throughout the entire seismic workflow. Our technologies are designed to allow us to define a solution to ensure that our customers' goals are met, such as removing false reflections and identifying fractures in reservoirs.

We believe that the application of our advanced processing technologies and imaging techniques can better identify complex hydrocarbon-bearing structures and deeper exploration targets. We also believe that the combination of GXT's capabilities in advanced velocity model building and depth imaging, along with our latest capabilities in FWI and GMO, provide an advanced toolkit for maximizing subsurface image resolution.

At December 31, 2013, our Solutions segment backlog, which consists of commitments for (i) data processing work and (ii) both multi-client new venture and proprietary projects by our GeoVentures group that have been underwritten, was $84.4 million compared with $151.3 million at December 31, 2012. The data processing contract that was executed in February 2014 adds an additional $20-$30 million to our backlog balance that existed at December 31, 2013. We anticipate that the majority of this backlog will be recognized as revenue over the first half of 2014. See Item 7. “Management’s Discussion and Analysis of Financial Condition and Results of Operations - Economic Conditions.” Our Solutions segment’s fiscal-year-end backlog typically includes for the most part signed contracts that we can typically fulfill within approximately 6 months. This is the case with our Solutions segment’s backlog at December 31, 2013. As of December 31, 2013, our Solutions segment backlog was 44% less than our backlog existing as of December 31, 2012. We cannot estimate whether this decline in year-over-year backlog represents a trend of lower demand, or only sales and revenue timing differences.

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Software Segment

Through this segment, we supply command-and-control software systems and services for towed marine streamer and ocean-bottom seismic operations. Software developed by our Concept Systems 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 Concept System's underlying software platform is that a large amount of the software code is designed to be re-usable in other applications. This enables the acceleration of development and commercialization of new products as market opportunities are identified. Our Narwhal system for ice management, which we released in 2013, is such an example.

Products and services for our Software segment include the following:

Marine Imaging — Our Concept Systems command and control software for towed streamer acquisition, Orca, integrates acquisition, positioning, source and quality control systems data management and control into a seamless platform. During 2013, Concept Systems signed several new agreements with key clients to install Orca on new vessels coming into the market over the next 2 years. In addition, agreements were reached to upgrade several legacy Spectra® systems to the Orca platform. Despite industry consolidation and increased competition, the Orca install base continues to grow and we expect that to continue during 2014.

Seabed Imaging — Concept Systems continues to enhance its Gator™ II product, which is an integrated navigation and data management software system for multi-vessel ocean-bottom cable and transition zone (such as marshlands) operations. The Gator II system is designed to provide real-time, multi-vessel positioning and data management solutions for ocean-bottom, shallow-water and transition zone crews. We believe that our Gator II command and control software design meets the unique challenges of distributed, multi-vessel ocean-bottom, transition zone, and electromagnetic data acquisition. The system is flexible and scalable to configure and control single vessel operations to highly complex surveys spanning multiple vessels and acquisition systems.

Survey Design, Planning and Optimization — Concept Systems offers consulting services for planning, designing and supervising complex surveys, including for 4-D (time lapse) and Wide Azimuth Towed Streamer (WATS) survey operations. Concept Systems' acquisition expertise and in-field software platforms and development capability are designed to allow clients, including both oil companies and seismic data acquisition contractors, to optimize these complex surveys, improving image 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. We believe that our newly-developed proprietary technology known as Optimiser™ will enable improved, safer acquisition strategies through analysis and prediction of sea currents and integration of the information into the acquisition plan.

Ice Management — Concept Systems has 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, 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. This technology has applications in our core market of seismic operations as well as in drilling platform defense and general shipping operations.

Systems Segment

Our Systems segment products include the following:

Marine Acquisition Systems — We believe that the market for seabed seismic imaging is growing. E&P companies have shown increased interest in seabed seismic activities, consistent with their desire for higher-quality seismic imaging for complex geological formations and more detailed reservoir characteristics. In 2004, we introduced our VSO system, an advanced system for seismic data acquisition using re-deployable ocean-bottom cable. During 2010, we announced the launch of VSO II, which offered significant enhancements over the initial VSO system. We continue to develop our seabed technology and expect to begin utilizing our next-generation ocean-bottom system, Calypso, through our OceanGeo joint venture during 2014.

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, our next-generation towed streamer system, uses solid streamer and integrated continuous acquisition technology for towed streamer operations.

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Marine Positioning Systems — Our manufactured DigiCOURSE® 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. 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.

Source and Source Control Systems — We manufacture and sell air guns, which are the primary seismic energy source used in marine environments to initiate the acoustic energy transmitted through the Earth's subsurface. An air gun fires a high compression burst of air underwater to create an energy wave for seismic measurement. We offer a digital source control system DigiSHOT® that allows for reliable control of air gun arrays for 4-D exploration activities.

Geophones — Geophones are land analog 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 analog geophones are used in other industries as well.

During the third quarter of 2013, we determined to restructure our Systems' segment's product line and we have recorded several related charges against our earnings as a result. See "Management's Discussion and Analysis of Financial Condition and Results of Operations — Restructuring and Other Charges."

INOVA Geophysical Products

As a leading manufacturer of land seismic technology, INOVA Geophysical is committed to helping geophysical contractors and E&P companies obtain a complete picture of the subsurface through the INOVA Clarity Broadband Solution™. INOVA offers a comprehensive portfolio of acquisition systems, source products and digital sensors to acquire seismic data across the full broadband spectrum.

During the third quarter of 2013, INOVA Geophysical determined to restructure its product line and, as a result, incurred certain charges against its results of operations. See "Management's Discussion and Analysis of Financial Condition and Results of Operations — Restructuring and Other Charges."

Products of INOVA Geophysical include the following:

Land Acquisition Systems — INOVA Geophysical manufactures several types of land acquisition systems. INOVA Geophysical's cableless system, Hawk, is designed to enable contractors to operate more efficiently in challenging, culturally-intensive environments. Other benefits include a decrease in system weight and, we believe, superior operational efficiencies, reduced operational troubleshooting time and better defined sampled seismic data.

INOVA Geophysical also manufactures cable-based land acquisition systems, G3i and ARIES® . These cable-based systems consist of a central recording unit and multiple remote ground equipment modules that are connected by cable. Each system has different capabilities, benefits and cost structures intended to assist the geophysical contractor in meeting the acquisition and cost requirements of its E&P company customers.

Source Products — INOVA Geophysical manufactures three different types of vibrator vehicles, including AHV-IV™, XVib® and UNIVIB®, for use as energy sources for vibroseis land acquisition in many different types of environments. Additionally, INOVA Geophysical offers its Connex™ Vib field operations equipment system that provides navigation and positioning of vibroseis vehicles with capabilities for integrated stakeless operations.

INOVA Geophysical is also a provider of energy source control and positioning technologies. The Vib Pro™ control system provides vibrator vehicles with digital technology for energy control and global positioning system technology for navigation and positioning. The Shot Pro™ dynamite firing system is the equivalent technology for seismic operations using dynamite energy sources.

Digital Sensors — INOVA Geophysical also offers two digital point receivers for broadband seismic acquisition, AccuSeis™ and VectorSeis. Both sensors are engineered with advanced integrated components including micro-electro-mechanical (MEMS) accelerometers, Digital Signal Processors and ASIC chips. INOVA Geophysical's digital sensors allow seismic crews to capture higher resolution data for enhanced imaging and improved

characterization of the subsurface.

AccuSeis is designed to provide solutions for conducting acquisition projects from conventional 3-D surveys to complex, large channel count 3-D super-spreads, particularly when used with G3i and Hawk recording systems. Weighing only 175 grams, we believe that AccuSeis is the lightest and smallest sensor in the industry. VectorSeis is INOVA Geophysical's digital multicomponent sensor and it can be used with all of its recording systems. Since 1999, VectorSeis full-wave technology has been used to acquire seismic data worldwide.

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Product Research and Development

Our ability to compete effectively in the seismic imaging and equipment markets depends principally upon continued technological innovation. 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 seismic data acquisition. In particular, we have concentrated on enhancing the nature and quality of the information that can be extracted from the subsurface images.

During 2013, our R&D 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 new Calypso re-deployable ocean-bottom acquisition system together with other marine technologies. 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 the further development of a new processing-based broadband marine seismic solution, WiBand, which was introduced at the 2013 European Association of Geoscientists and Engineers (EAGE) annual technical conference and exhibition. We also invested in developing an ice management system and, during the third quarter of 2013, we announced the launch of Narwhal, which is designed to give operators the ability to better track, forecast and monitor ice threats. In 2013, we also continued research and development investment into maximizing the value of full-wave seismic data, particularly the extraction of new and more accurate subsurface information with a special emphasis on shale plays and marine seabed 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

We believe that we are a strong market participant in seismic data acquisition in the Arctic and in numerous product lines, including full-wave sensors based upon MEMS technologies, navigation and data management software, marine positioning and streamer control systems, redeployable seabed recording systems and, through INOVA Geophysical, cableless land acquisition systems.

Our principal customers are E&P companies and seismic contractors. We market and offer services directly to E&P companies, primarily imaging-related processing services from our GXT subsidiary, multi-client seismic data libraries from our GeoVentures group and seabed seismic acquisition services through our OceanGeo joint venture, as well as consulting services from Concept Systems and GXT. Seismic contractors purchase our 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.

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 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. During 2013, 2012 and 2011, sales to destinations outside of North America accounted for approximately 73%, 69% and 66% 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 Note 2 "Segment and Geographic Information" of Notes to Consolidated Financial Statements contained elsewhere in this Annual Report on Form 10-K for additional information.

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Competition

Our GXT group within our Solutions segment competes with more than a dozen processing companies that are capable of providing pre-stack depth migration services to E&P companies. See " — Services and Products — Solutions Services." While the barriers to entry into this market are relatively low, we believe the barriers to competing 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 WesternGeco L.L.C. (a wholly-owned subsidiary of Schlumberger Limited, 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 revenues, number of processing locations, and sales, marketing and financial resources. In addition, both CGG and WesternGeco possess an advantage of being part of affiliated seismic contractor companies, providing them with access to customer relationships and seismic datasets that require processing. GXT also competes with companies that are capable of performing data processing services via internal resources. CGG and WesternGeco, along with another competitor, TGS-NOPEC Geophysical Company ASA, a provider of multi-client geosciences data, also develop and sell data libraries that compete with our BasinSPAN data library.

The market for seismic services and products is highly competitive and is characterized by continual changes in technology. Our principal competitor for marine seismic equipment is Sercel, an affiliate of CGG. Sercel possesses the advantage of being able to sell its products and services to an affiliated seismic contractor that operates both land crews and seismic acquisition vessels, providing it with a greater ability to test new technology in the field and to capture a captive internal market for product sales. Sercel has also demonstrated that it is willing to offer extended financing sales terms to customers in situations where we declined to do so due to credit risk. 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. In the land seismic equipment market, where INOVA competes, the principal competitors are Sercel and Geospace Technologies.

Certain seismic contractors have designed, engineered and manufactured seismic acquisition technology in-house (or through a network of third-party vendors) in order to achieve differentiation versus their competition. For example, WesternGeco relies heavily on its in-house technology development for designing, engineering and manufacturing its "Q-Technology" platform, which includes seismic acquisition and processing systems. Although this technology competes directly with our technology for marine streamer, ocean-bottom and land acquisition, WesternGeco does not provide Q-Technology services to other seismic acquisition contractors. However, the risk exists that other seismic contractors may decide to conduct more of their own seismic technology development, which would put additional pressures on the demand for our acquisition equipment products.

In addition, over the last several years, we have seen both new-build and existing fleet consolidation activity within the marine towed streamer segment, which could impact our business results in the future. 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 increase by 25, to approximately 153 vessels total. This projection has increased by 3 vessels since December 31, 2012. We understand that 24 out of these estimated 25 vessels are intended to be outfitted to perform 3-D seismic survey work. In addition, there has been an increase in recent years of consolidation within the sector, with the major vessel operators – CGG, WesternGeco and Petro GeoServices ASA – all moving to acquire new market entrants in the last several years. In 2013, CGG acquired the geoscience division of Fugro, an international energy infrastructure company. This acquisition resulted in more than 75% 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 companies developing technology that uniquely differentiates them from the rest of the players. This consolidation in the sector reduces the number of potential customers and vessel outfitting opportunities for us.

Concept Systems provides advanced data integration software and services to seismic contractors acquiring data using either towed streamer vessels or ocean-bottom cable on the seabed. Vessels or ocean-bottom cable crews that do not use Concept Systems software either rely upon manual data integration, reconciliation and quality control, or develop and maintain their own proprietary software packages. There is growing competition to Concept Systems' core

command and control business from Sercel and other smaller companies. Concept Systems has signed long term (between two and five years) technology partnership agreements with many of its key clients and will continue to seek to develop key new technologies with these clients. An important competitive factor for companies in the same business as Concept Systems is the ability to provide advanced complex command and control software with a high level of reliability combined with expert systems and cost-efficient project support. Additionally, the barriers to entry into this market space are high, especially where operations are more complex and require the delivery of robust complex control systems with support and operations infrastructure.

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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 550 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,” “DigiSHOT,” “DigiFIN,” “XVib,” “DigiCOURSE,” “Spectra,” “Orca,” “Sprint,” “Reflex,” “G3i” “Calypso” and “UNIVIB” refer to the GEOVENTURES®, VECTORSEIS®, ARIES® II, DIGISHOT®, DIGIFIN®, XVIB®, DIGICOURSE®, GATOR®, SPECTRA®, ORCA®, SPRINT®, REFLEX®, G3i®, Calypso® and UNIVIB® registered marks owned by ION or INOVA Geophysical, and the terms “AZIM,” “BasinSPAN,” “DigiSTREAMER,” “AHV-IV,” “Vib Pro,” “Shot Pro,” “Optimiser,” “ResSCAN,” “Hawk,” “Connex,” “WiBand,” “Narwhal” “AccuSeis” refer to the AZIM™, BasinSPAN™, DigiSTREAMER™, AHV-IV™, Vib Pro™, Shot Pro™, Optimiser™, ResSC Hawk™, Connex™, WiBand™, Narwhal™ and AccuSeis™ trademarks and service marks 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 have had 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.

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The Deepwater Horizon incident in the U.S. Gulf of Mexico in April 2010 resulted in a moratorium on certain offshore drilling activities by the Bureau of Ocean Energy Management, Regulation and Enforcement (formerly known as the Minerals Management Service and which was replaced effective October 1, 2011 by two new, independent bureaus - the Bureau of Safety and Environmental Enforcement ("BSEE") and the Bureau of Ocean Energy Management ("BOEM")). This moratorium and other regulatory initiatives in response to this incident adversely affected decisions of E&P companies to explore and drill in the Gulf of Mexico, and negatively impacted our Solutions segment in 2010 and 2011. During this time period, we experienced a significant reduction in data processing revenues attributable to the Gulf of Mexico. The BSEE and BOEM have issued new safety and environmental guidelines and regulations for drilling in the Gulf of Mexico and other offshore regions, and may take other steps that could increase the costs of exploration and production, reduce the area of operations and result in additional permitting delays in the Gulf of Mexico. In addition, there have been numerous other proposed changes in laws, regulations, guidance and policies in response to the Deepwater Horizon incident that could adversely affect E&P operations in the Gulf of Mexico. While the pace of drilling activities in the Gulf of Mexico has increased since late 2011, the Deepwater Horizon incident has resulted in heightened regulatory scrutiny, more stringent operating and safety standards, changes in equipment requirements and the availability and cost of insurance.

We do not engage in hydraulic fracturing services, a commonly used process in the completion of oil and natural gas wells in low permeability formations such as shales, which involves the injection of water, proppants and chemicals under pressure into the target reservoir to stimulate hydrocarbon production. Our business, however, is dependent on the level of activity by our E&P customers, and hydrocarbons cannot be economically produced from certain reservoirs without extensive fracturing. Due to public concerns about any environmental impact that hydraulic fracturing may have, including potential impairment of groundwater quality, certain 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. Any legislative and regulatory initiatives imposing significant additional restrictions on, or otherwise limiting, the hydraulic fracturing process could make it more difficult or costly to complete natural gas and oil wells. In the event such requirements are enacted, demand for our ResSCAN shale data libraries and seismic data acquisition services may be adversely affected.

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, 2013, we had 1,072 regular, full-time employees, 679 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 Note 2 "Segment and Geographic Information" of Notes 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. Our website should not be relied upon for investment purposes, and it is not incorporated by reference into this Annual Report on Form 10-K.

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 to those reports, 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.

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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 (see " — An unfavorable judgment in our pending litigation matter with WesternGeco could have a materially adverse effect on our financial results and liquidity." below) and future potential adverse effects on our liquidity in the event that we must post and collateralize an appeal bond for the amount of damages entered in a judgment or are unsuccessful in our appeal of an adverse judgment in this matter;
- predictions of future industry-wide increases or decreases in capital expenditures for seismic activities;
- the timing of anticipated revenues and the recognition of those revenues for financial accounting purposes;
- future levels of spending by our customers;
- the effects of current and future unrest in the Middle East, North Africa and other regions;
- 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;
- 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;
- future oil and gas commodity prices;
- the timing of future revenue realization of anticipated orders for multi-client seismic survey projects and data processing work in our Solutions segment;
- future levels of our capital expenditures;
- expected net revenues, income from operations and net income;
- expected gross margins for our products and services;
- future benefits to be derived from our INOVA Geophysical and OceanGeo joint ventures;
- future seismic industry fundamentals, including future demand for seismic services and equipment;
- future benefits to our customers to be derived from new products and services;
- future benefits to be derived from our investments in technologies, joint ventures and acquired companies;
- future growth rates for our products and services;
- the degree and rate of future market acceptance of our new products and services;
- expectations regarding E&P companies and seismic contractor end-users purchasing our more technologically-advanced products and services;
- anticipated timing and success of commercialization and capabilities of products and services under development and start-up costs associated with their development;
- future cash needs and future availability of cash to fund our operations and pay our obligations;
- potential future acquisitions;
- 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

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- 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 judgment in our pending litigation matter with WesternGeco could have a materially adverse effect on our financial results and liquidity.

In August 2012, a jury in the WesternGeco L.L.C. v. ION Geophysical Corporation litigation returned a verdict of approximately $105.9 million in damages against us (for additional information, see Item 3. “Legal Proceedings” below). 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. On October 24, 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. The total damages award in the case now consists of the jury award of $105.9 million and the supplemental damages award of $73.1 million, plus prejudgment interest and court costs. As of the date that this Annual Report on Form 10-K was filed with the SEC, the trial court had not entered its final judgment in the matter.

Based on our analysis after the trial court’s Memorandum and Order in June 2013 denying our post-verdict motions that challenged the jury’s infringement findings and the damages amount, we increased our loss contingency accrual related to this case from $10.0 million to $120.0 million, consisting of jury verdict damages, court costs and estimates of prejudgment interest and supplemental damages. Based on our analysis after the trial court’s Memorandum and Order in October 2013 awarding supplemental damages, we further increased our loss contingency accrual related to this case from $120.0 million, to $193.3 million at December 31, 2013, consisting of jury verdict damages, supplemental damages, court costs and estimates of prejudgment interest.

Upon the entering of a final trial court judgment, we intend to appeal the judgment to the United States Court of Appeals for the Federal Circuit. If we are unsuccessful on appeal, we would be liable for the entire judgment amount, which could adversely affect our financial condition.

In order to stay enforcement of the judgment during our appeal, we will be required to post an appeal bond with the trial court after the final trial court judgment is entered. The amount of the appeal bond is in the discretion of the trial court judge, but it could be required to be up to the full amount of damages entered in the judgment, plus court costs and interest. To be prepared for an adverse judgment in this case, we have arranged with sureties to post an appeal bond on our behalf. The sureties have indicated they will likely require us to post cash collateral to secure the appeal bond amount for as long as the bond is outstanding. We currently believe that the sureties will likely require cash collateral equal to 25% of the appeal bond amount, although they will likely have the contractual right to require cash collateral for up to the full amount of the bond. Until the surety arrangements are completed, the terms applicable to the appeal bond, including the terms enabling each surety to require us to post collateral with the surety at any time the bond is outstanding, for up to the full amount of the bond, are not certain. If we are required to post collateral 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 and undrawn sums available for borrowing under our revolving line of credit facility, and possibly incur additional debt and/or equity financing. The collateralization of such a large appeal bond could have a material and adverse effect on our liquidity. If we are unable to post the appeal bond, we will be unable to stay enforcement of the trial court judgment during the appeal of the judgment. At this time, we are unable to determine for certain the amount of such an appeal bond or whether and to what extent the sureties will require the appeal bond to be collateralized. Similarly, we are unable to predict the timing

of the final judgment being entered by the trial court or the timing of posting the required appeal bond. Until final judgment is entered, prejudgment interest will continue to accrue on the damages amount.

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Any requirements that we collateralize the appeal bond will reduce our liquidity and reduce the amount of borrowings otherwise available under our revolving line of credit facility for other purposes. The current maturity date of the outstanding debt under our Credit Facility is in March 2015. No assurances can be made that 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 more favorable to holders of those securities than the terms of our current debt or equity securities, and the terms of those securities could impose further restrictions on our operations. If we are unable to raise additional capital under these circumstances, our business, operating results and financial condition may be materially harmed.

If our efforts on appeal to reverse or reduce the verdict substantially are unsuccessful, it would likely have the effect of reducing our capital resources available to fund our operations and take advantage of certain business opportunities, which could have a material adverse effect on our business, results of operations and financial condition.

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 trial court. Our assessment of our potential loss contingency may change in the future due to developments at the trial court level or 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.

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 joint venture involves numerous risks.

Our OceanGeo joint venture with Georadar is focused on owning and operating a seismic acquisition contractor concentrated on marine seabed (ocean-bottom) seismic data acquisition. There can be no assurance that we will achieve the expected benefits of this joint venture. The OceanGeo joint venture (and any future joint ventures or 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 difficulties in developing and expanding its business. Weaknesses in the Brazilian offshore market for OceanGeo’s

services materially and adversely affected OceanGeo's results of operations in 2013. We may experience difficulties in funding future capital contributions to the joint venture, exercising influence over the management and activities of the joint venture, overseeing quality control over joint venture services and potential conflicts of interest with the joint venture and Georadar, our joint venture partner. Any inability to meet our obligations as a joint venture partner under the joint venture agreement could result in our being subject to penalties and reduced percentage interests in the joint venture for our company.

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

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- 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 products and services may expose us to litigation and legal proceedings, including those related to product liability, personal injury and contract liability.

We will 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. However, we cannot assure you that the nature and amount of insurance will be sufficient to fully indemnify OceanGeo and its joint venture partners 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.

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

- increased costs associated with the operation of the business and the management of geographically dispersed operations;
- the joint venture's cash flows may be inadequate to fund its capital requirements, thereby requiring additional contributions to the capital of the joint venture by us and by Georadar;
- risks associated with our new 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;
- Georadar's future financial capacity and capabilities to make future contributions and advances of capital to the joint venture;
- 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;
- the divergence of our interests from Georadar's interests in the future, disagreements with Georadar on ongoing business and operational activities or strategies, or the amount, timing or nature of further investments in the joint venture;
- the terms of our joint venture arrangements may turn out to be unfavorable to us;
- we may not be able to realize operating efficiencies, cost savings or other benefits that we expect from the joint venture's operations;
- joint venture profits and cash flows may prove inadequate to fund cash distributions from the joint venture to the joint venture partners; and
- the joint venture may experience difficulties and delays in securing new business and customer projects.

As a result of our acquisition on January 27, 2014 of an additional 40% of the equity ownership interests in OceanGeo, we now own 70% of the equity interests in the company. Because we gained control of the company on January 27, 2014, we continued to record our share of OceanGeo's results using equity method accounting through January 27, 2014, and after that date we will consolidate OceanGeo's financial results and financial position with our consolidated financial results and financial position. Any losses from the results of operations of OceanGeo or an unfavorable financial condition of OceanGeo would have an adverse impact on our financial position, gross margin and operating results as a result of this consolidation.

In the future, we may enter into additional joint ventures or make other equity investments, each of which could have an adverse impact on our company due to financial accounting guidance regarding the financial consolidation of affiliated entities.

If the OceanGeo joint venture is not successful, our business, results of operations and financial condition may be adversely affected.

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Our INOVA Geophysical joint venture with BGP involves numerous risks.

Our INOVA Geophysical joint venture with BGP is focused on designing, engineering, manufacturing, research and development, sales and marketing and field support of land-based equipment used in seismic data acquisition for the oil and gas industry. Excluded from the scope of the joint venture's business are the analog sensor businesses of our respective companies, and the businesses of certain companies in which BGP or we are currently a minority owner. In addition to these excluded businesses, all of our other businesses - including our Solutions, Systems and Software segments - remain owned and operated by us and do not comprise a part of the joint venture.

The INOVA Geophysical joint venture involves the integration of multiple product lines and business models contributed by us and BGP that previously operated independently. This has proved to be a complex and time-consuming process.

There can be no assurance that we will achieve the expected benefits of the joint venture. The INOVA Geophysical joint venture (and any future joint ventures or acquisitions that we may complete) has resulted in, and may in the future result in, unexpected costs, expenses and liabilities, which may have a material adverse effect on our business, financial condition or results of operations. INOVA Geophysical may encounter difficulties in developing and expanding its business. We may experience difficulties in funding any future capital contributions to the joint venture, exercising influence over the management and activities of the joint venture, quality control over joint venture products and services and potential conflicts of interest with the joint venture and with BGP, our joint venture partner. Any inability to meet our obligations as a joint venture partner under the joint venture agreement could result in our being subject to penalties and reduced percentage interests in the joint venture. Also, we could be disadvantaged in the event of disputes and controversies with our joint venture partner, since our joint venture partner is a relatively significant customer of our services and products and future services and products of the joint venture as well as a holder of approximately 15% of our outstanding common stock.

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

- as a condition in our senior secured revolving line of credit facility, INOVA Geophysical must provide a bank stand-by letter of credit as credit support for our obligations under the facility;
- increased costs associated with the integration and operation of the new business and the management of geographically dispersed operations;
- risks associated with the assimilation of new technologies, operations, sites and personnel;
- difficulties in retaining and integrating key technical, sales and marketing personnel and the possible loss of such employees and costs associated with their loss;
- difficulties associated with preserving relationships with our customers, partners and vendors;
- risks that any technology developed by the joint venture may not perform as well as we had anticipated;
- the strength of future seismic contractor demand for land seismic equipment and the highly competitive nature of the land seismic equipment manufacturing industry;
- the diversion of management's attention and other resources from other business operations and related concerns;
- the potential inability to replicate operating efficiencies in the joint venture's operations;
- potential impairments of goodwill and intangible assets, as well as write-downs of inventory due to obsolescence or changes in marketplace demand for INOVA Geophysical's products and services;
- the requirement to maintain uniform standards, controls and procedures;
- the impairment of relationships with employees and customers as a result of the integration of management personnel from different companies;
- the divergence of our interests from BGP's interests in the future, disagreements with BGP on ongoing manufacturing, research and development and operational activities, or the amount, timing or nature of further investments in the joint venture;
- the terms of our joint venture arrangements may turn out to be unfavorable to us;
- because we currently own only 49% of the total equity interests in INOVA Geophysical, there are certain decisions affecting the business of the joint venture that we cannot control or influence;

- we may not be able to realize the operating efficiencies, cost savings or other benefits that we expect from the joint venture;
- the joint venture's cash flows may be inadequate to fund its capital requirements, thereby requiring additional contributions to the capital of the joint venture by us and by BGP;

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- joint venture profits and cash flows may prove inadequate to fund cash dividends or other distributions from the joint venture to the joint venture partners; and
- the joint venture may experience difficulties and delays in production of the joint venture's products.

If the INOVA Geophysical joint venture is not successful, our business, results of operations and financial condition will likely be adversely affected.

In addition, the terms of the joint venture's governing instruments and the agreements regarding BGP's investment in our company contain a number of restrictive provisions that directly affect us. For example, an investors' rights agreement grants pre-emptive rights to BGP with respect to certain future issuances of our stock. These restrictions may adversely affect our ability to quickly raise funds through a future issuance of our securities, and 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. See " — 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" below.

Our levels of outstanding indebtedness increased during 2013; higher levels of outstanding indebtedness could adversely affect our liquidity, financial condition and our ability to fulfill our obligations and operate our business.

As of December 31, 2013, we had approximately $220.2 million of total outstanding indebtedness, including $10.2 million of capital leases. As of December 31, 2013, there was $35.0 million outstanding under our $175.0 million senior secured revolving line of credit facility. In January 2014, we borrowed an additional $15.0 million on this credit facility with $50.0 million outstanding at February 24, 2014. We currently have $125.0 million available for borrowing under our senior revolving line of credit facility. At February 24, 2014, our outstanding indebtedness was approximately $235.2 million. We may also incur additional indebtedness in the future.

In addition, our $175.0 million senior secured revolving line of credit facility matures in March 2015. We rely upon having a revolving line of credit for liquidity purposes, including providing necessary funds as may be necessary in connection with the WesternGeco L.L.C. v. ION Geophysical Corporation litigation (see " — An unfavorable judgment in our pending litigation matter with WesternGeco could have a materially adverse effect on our financial results and liquidity."). No assurances can be made whether we will be able to replace or extend this facility or, if we are successful in doing so, on what terms and conditions, and at what cost.

If an adverse final trial court judgment is entered in the WesternGeco L.L.C. v. ION Geophysical Corporation litigation, we intend to appeal the judgment to the United States Court of Appeals for the Federal Circuit. 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 and undrawn sums available for borrowing under our revolving line of credit facility, and possibly incur additional debt financing.

In December 2013, Moody's Investors Service downgraded our company's corporate and debt ratings and the rating outlook from "stable" to "negative." According to Moody's, this downgrade was as a result of uncertainties related to the ultimate impact of the WesternGeco litigation on our liquidity, in combination with our exposure to a volatile and cyclical seismic sector. Additionally, in December 2013, S&P downgraded our company's corporate and debt ratings due to similar concerns.

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 tendered to us upon the occurrence of a change of control, which would constitute an event of default under the Notes; and

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- 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.

Under the current terms of our revolving credit facility, the facility is scheduled to terminate on March 14, 2015, and all outstanding indebtedness under the facility at that time would mature on that date. If we are not able to refinance this facility or extend our line of credit under the facility to a later maturity date, the indebtedness would be classified as a current liability on our consolidated balance sheet as of March 15, 2014.

In addition, our revolving credit facility bears interest at variable rates. If market interest rates increase, debt service requirements on our senior revolving credit facility will increase. This would have an adverse effect on our results of operations and cash flows. Although we may employ hedging strategies such that a portion of the aggregate principal amount of this credit facility carries a fixed rate of interest, any hedging arrangement put in place may not offer complete protection from this risk.

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 senior revolving line of credit facility. See Note 4 "Long-term Debt and Lease Obligations" of the Notes 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.

New data acquisition or processing technologies may be developed. New and enhanced products and services introduced by one of our competitors may gain market acceptance and, if not available to us, may adversely affect us.

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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;
- 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.

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 products and services 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.

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After a period of exploration-focused activities by E&P companies in recent years, recent studies have indicated that many E&P companies in 2014 will focus more on production activities and less on exploration of prospects. The major national and independent oil companies may have determined to pause in their efforts to acquire exploration seismic data and focus more on the exploitation of their discoveries. The smaller independents may, in turn, take advantage of this pause and capitalize on asset sales during 2014. As of December 31, 2013, our Solutions segment backlog, consisting of commitments for data processing work and for underwritten multi-client new venture and proprietary projects by our GeoVentures group, was 44% less than our backlog existing as of December 31, 2012. We cannot estimate whether this decline in year-over-year backlog represents a trend of lower demand, or only sales and revenue timing differences.

Our operating results are subject to fluctuations from period to period as a result of new service or product introductions, 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 - such as our ocean-bottom systems - 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 for component parts and other inventory necessary to manufacture a product in anticipation of a future sale, 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 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 processing and GeoVentures 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. During 2013, we observed more seismic data library sales orders being pushed back from one quarter to the next; the fourth quarter of 2013 was an all-time record for data library sales. Fluctuations in our quarterly operating results may cause greater volatility in the market price of our common stock.

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 2013, we invested approximately $114.6 million in our multi-client data library and we currently expect to spend between $90.0 million to $110.0 million in 2014 for investments in our multi-client 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.

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- 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 71% in 2013) 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.

Sales to customer destinations outside of North America represented 73%, 69% and 66% of our consolidated net revenues for 2013, 2012 and 2011, 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.

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 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 oil and natural gas 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.

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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."

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.

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INOVA Geophysical has caused a standby letter of credit to be issued in support of our obligations under our senior secured credit agreement. In the event INOVA Geophysical is dissolved or the agent under our senior secured credit facility determines in good faith that INOVA Geophysical is unable to perform its obligations under its guaranty, the maturity date of our senior secured credit facility could be accelerated.

Our senior secured credit agreement is guaranteed by a $175.0 million standby letter of credit issued by China Merchant Bank, Tianjin Branch, on behalf of INOVA Geophysical (the "INOVA LC"). In addition, BGP has issued a comfort letter on behalf of the INOVA LC. The agent under our senior secured credit agreement, CMB, may draw on the INOVA LC to pay unpaid amounts due to CMB under our senior secured credit agreement. We have also entered into a credit support agreement with INOVA Geophysical whereby we have agreed to indemnify INOVA Geophysical for any and all losses sustained by INOVA Geophysical that arise out of or are a result of the enforcement of the INOVA LC. Our senior secured credit agreement provides that in the event that INOVA is dissolved or the agent determines in good faith that INOVA is unable to perform its obligations under its guaranty, the maturity date of the indebtedness would be accelerated to that date, which is 18 months after such dissolution or determination.

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.

The global recession resulting from the 2008 financial crisis contributed to weakened demand on a worldwide basis, which reduced the levels of exploration for oil and natural gas. 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.

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

Demand for our services and products depends upon the level of spending by E&P companies and seismic contractors for exploration and development 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 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 and 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 loan 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;

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- 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.

Although we believe that the long-term trend is favorable, the level of oil and gas exploration and production activity has been volatile in recent years. Previously forecasted trends in oil and gas exploration and development activities may not continue and demand for our services and products may not reflect the level of activity in the industry. Any prolonged substantial reduction in oil and gas prices would likely affect oil and gas production levels and therefore adversely affect demand for the services we provide and products we sell.

We are exposed to risks relating to the effectiveness of our internal controls; failure to maintain effective internal control over financial reporting could have a material adverse effect on the accuracy, timeliness and reliability of our financial reporting. Our internal controls for financial reporting and our disclosure controls and procedures may not prevent all possible errors that could occur.

In connection with the preparation and review of the financial statements to be included in our Quarterly Report on Form 10-Q for the nine months ended September 30, 2013, we determined that we had incorrectly presented the investments in our multi-client seismic data libraries, or SPANs, in our condensed consolidated statements of cash flows for the three months ended March 31, 2013 and the six months ended June 30, 2013. We had incorrectly recorded certain items of non-cash activity related to the investments in our multi-client seismic data libraries, which resulted in an understatement of our cash provided by operating activities and an understatement of our cash used in our investing activities as had been previously reported for the interim periods ended March 31, 2013 and June 30, 2013. These investment items should have instead been included and presented as additions to our net cash used in investing activities in our condensed consolidated statement of cash flows for the three months ended March 31, 2013 and the six months ended June 30, 2013. As a result, we filed Form 10-Q/A amendments to our Quarterly Reports on Form 10-Q for the quarterly periods ended March 31, 2013 and June 30, 2013, reflecting the restatements to our condensed consolidated statements of cash flows contained in those previously filed Form 10-Qs.

Our management concluded that a material weakness existed in our internal control over financial reporting with respect to certain procedures and controls related to the preparation and review of our consolidated statements of cash flows as of September 30, 2013. A material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the annual or interim financial statements will not be prevented or detected on a timely basis.

As a result of this material weakness, our management concluded that our disclosure controls and procedures were not effective as of March 31, June 30 and September 30, 2013, and that we did not maintain effective internal control over financial reporting as of March 31, June 30 and September 30, 2013.

To address the material weakness, we have undertaken improvements to our procedures and controls that include the use of automated systems reporting of non-cash accruals related to our investments in our multi-client data library and fixed assets and an improved cross-functional management review of the statement of cash flows. The enhanced controls should enable management to ensure that the condensed consolidated statements of cash flows are presented accurately.

For a description of this material weakness in our internal control over financial reporting identified in September 30, 2013 and our remediation efforts as of December 31, 2013, see Item 9A. “Controls and Procedures.”

Although we believe that we have remediated the material weakness described above, there can be no assurance that such controls will effectively prevent material misstatements in our consolidated financial statements in future periods. We may experience controls deficiencies or material weakness in the future, which could adversely impact the accuracy and timeliness of our future reporting and reports and filings we make with the SEC. 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 accuracy, timeliness and reliability of our financial reporting, which could in turn, have a negative effect on our financial condition and results of operations as well as the price of our publicly traded securities.

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The loss of any significant customer 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 2013, 2012 and 2011, our top five customers together accounted for approximately 29%, 28% and 30%, 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.

During the last ten years, our traditional seismic contractor customers have been rapidly consolidating, thereby consolidating the demand for our services and products. In 2013, CGG acquired Fugro's geoscience division. This acquisition evidences the further consolidation ongoing in this market, and could have the effect of reducing the number of our potential customers and vessel outfitting opportunities. The loss of any of our significant customers to further consolidation could materially and adversely affect our results of operations and financial condition.

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 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.

Goodwill and intangible assets 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.

For goodwill testing purposes, the $193.3 million litigation contingency accrual is assigned to the Marine Systems reporting unit. Based on the increase in this accrual and the recording of a valuation allowance on substantially all of our net deferred tax assets in the third quarter of 2013, this reporting unit's carrying value was negative as of December 31, 2013. The negative carrying value required us to perform step 2 of the impairment test on Marine Systems; the test did not indicate an impairment of goodwill associated with the Marine Systems reporting unit.

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, 2013, our goodwill and other intangible asset balances were

$55.9 million and $11.2 million, respectively.

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Our products and services' 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, 2013, we increased our reserve for excess and obsolete inventories by $18.2 million related to write-downs of inventory resulting from the restructuring of our Systems segment. In addition, we wrote off $1.1 million of inventory through scrap expense, and wrote down $1.9 million of inventory to a lower of cost or market value basis as a result of the restructuring.

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

We derive a significant portion 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, China, Canada, the Netherlands, Brazil, 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. 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 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 have employed 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.

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 3, 2014, we had 163,737,757 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 3, 2014, we had outstanding stock options to purchase up to 8,236,950 shares of our common stock at a weighted average exercise price of $6.83 per share. We also had, as of that date, 5,041,703 shares of common stock reserved for issuance under outstanding restricted stock and restricted stock unit awards.

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During 2009, we issued in a privately-negotiated transaction 18.5 million shares of our common stock to certain institutional investors. In March 2010, we issued 23.8 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.

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 191,000 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.

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 the regulatory actions taken by the U.S. government in response to the Deepwater Horizon incident in the U.S. Gulf of Mexico, can adversely affect, and have has 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 products and services, which may involve substantial costs or delays in sales and could have an adverse effect on our future operating results. Our export activities are also subject to extensive and evolving trade regulations. Certain countries are subject to restrictions, 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. 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.

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In April 2010, the Deepwater Horizon drilling rig in the U.S. Gulf of Mexico sank following a catastrophic explosion and fire, which resulted in the release of millions of barrels of crude oil. In response to this incident, the Bureau of Ocean Energy Management, Regulation and Enforcement imposed a moratorium on certain drilling activities in the U.S, Gulf of Mexico. While the moratorium was lifted in October 2010, BSEE and BOEM have issued and are expected to issue new safety and environmental guidelines or regulations for drilling in the Gulf of Mexico and in other U.S. offshore locations. As a result of these changes, the permitting process for exploration and development activities in the U.S. Gulf of Mexico slowed considerably, which adversely affected our results of operations and financial condition. Our Solutions segment was particularly impacted negatively during 2010 and 2011 by a reduction in data processing business from the Gulf of Mexico and new venture and multi-client seismic data library sales from our GulfSPAN seismic dataset.

Future changes in laws or regulations regarding offshore oil and gas exploration and development activities and decisions by customers, governmental agencies, or other industry participants in response to these changes, could reduce demand for our services and products, which could have a negative impact on our financial position, results of operations or cash flows. 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, similar to the Deepwater Horizon incident, 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 suggesting that emissions of and greenhouse gases (including carbon dioxide and methane) (“GHGs”) may be contributing to global climate change, legislative and regulatory measures to address the concerns are in various phases of discussion or implementation. We are aware of the increasing focus of local, state, national and international regulatory bodies on GHG emissions and climate change issues. The United States Congress may consider legislation to reduce GHG emissions. Although it is not possible at this time to predict whether proposed legislation or regulations will be adopted, any such future laws and regulations could result in increased compliance costs or additional operating restrictions. Any additional costs or operating restrictions associated with legislation or regulations regarding GHG emissions could have a material adverse impact on our business, financial condition and results of operations.

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 and/or GHG cap and trade programs. More stringent regulations and laws relating to GHGs and climate change may be adopted in the future and could 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 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.

Hydraulic fracturing is a process used by oil and gas exploration and production operators in the completion of certain oil and gas wells, particularly in low permeability formations such as shales. The process involves the injection of water, sand, 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 exploration and production customers, and hydrocarbons cannot be economically produced from certain reservoirs without extensive hydraulic fracturing.

Due to public concerns about environmental impact that hydraulic fracturing may have, 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. Several states have implemented, or are considering implementing, new regulations pertaining to hydraulic fracturing, including the

disclosure of chemicals used in fracturing operations. A number of state and local governments have also adopted or are considering adopting additional requirements relating to hydraulic fracturing. In certain areas of the country, new drilling permits for hydraulic fracturing have been put on hold pending the completion of studies and development of additional standards.

Further governmental reviews are underway or being proposed that focus on environmental aspects of hydraulic fracturing practices. The White House Council on Environmental Quality is coordinating an administration-wide review of hydraulic fracturing practices, and a committee of the U.S. House of Representatives has conducted an investigation of hydraulic fracturing practices. The EPA has commenced a study of the potential environmental effects of hydraulic fracturing on drinking water and groundwater, with final results expected to be released in late 2014.

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The adoption of legislation or regulations placing significant restrictions on hydraulic fracturing activities could impose operational delays and increased operating costs on our customers, making it more difficult and costly for them to complete natural gas and oil wells. In the event such 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 a high volume of quality components. We have increased our use of contract manufacturers as an alternative to our own manufacturing of products. We have outsourced the manufacturing of our towed marine streamers and MEMS components. Certain components used by us are currently provided by only one supplier. 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, as we come to rely more heavily 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 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;
- 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.

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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, 2013 were as follows:

Operating Facilities	Square Footage	Segment
Houston, Texas	224,000	Global Headquarters and Solutions
Harahan, Louisiana	191,000	Systems
Denver, Colorado	29,000	Solutions
Edinburgh, Scotland	23,000	Software
Jebel Ali, Dubai, United Arab Emirates	2,000	International Sales Headquarters
	469,000	

Each of these operating facilities is leased by us under long-term lease agreements. These lease agreements have terms that expire ranging from 2013 to 2025. See Note 13 “Operating Leases” of Notes to Consolidated Financial Statements. In addition, we lease offices in Cranleigh, England; Beijing, China; and Moscow, Russia to support our global sales force. We lease offices for our seismic data processing centers in Egham, England; Port Harcourt, Nigeria; Luanda, Angola; Moscow, Russia; Cairo, Egypt; Villahermosa, Mexico; Rio de Janeiro, Brazil; Port of Spain, Trinidad; West Perth, Australia; and Oklahoma City, Oklahoma. We also lease other facilities in Stafford, Texas; St. Rose, Louisiana; and Calgary, Canada. Our executive headquarters (utilizing approximately 23,100 square feet) 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.

Item 3. Legal Proceedings

WesternGeco

In June 2009, WesternGeco L.L.C. (“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 infringed several method and apparatus claims contained in four of its United States patents regarding marine seismic streamer steering devices. WesternGeco sought unspecified monetary damages and an injunction prohibiting us from making, using, selling, offering for sale or supplying any infringing products in the United States.

In June 2010, WesternGeco filed a lawsuit against various subsidiaries and affiliates of Fugro N.V. (“Fugro”), one of our seismic contractor customers, accusing Fugro of infringing the same United States patents regarding marine seismic streamer steering devices by planning to use certain equipment purchased from us on a survey located outside of U.S. territorial waters. The court approved the consolidation of the Fugro case with our case. Fugro filed a motion to dismiss the lawsuit, and in March 2011 the presiding judge granted Fugro’s motion to dismiss in part, on the basis that the alleged activities of Fugro would occur more than 12 miles from the U.S. coast and therefore are not actionable under U.S. patent infringement law.

In response to a Motion for Summary Judgment filed jointly by us and Fugro, the Court ruled in April 2012 that we did not directly infringe WesternGeco’s method patent claims. In a pre-trial ruling on June 29, 2012, the Court ruled that, if a particular patent claim of WesternGeco was held to be valid and enforceable at the upcoming trial, our DigiFIN lateral streamer control system, when combined with our lateral controller in the United States, would infringe one claim in one of WesternGeco’s asserted patents, U.S. Patent No. 7,293,520, under 35 U.S.C. §271(f)(1). Trial began on July 23, 2012. During the trial, Fugro settled all claims asserted against it by WesternGeco and obtained a global license from WesternGeco. A verdict was returned by the jury on August 16, 2012, finding that we

willfully infringed the claims contained in the four patents 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 September 2012, we filed motions with the trial court to overturn all or portions of the verdict. In June 2013, the presiding judge entered a Memorandum and Order rejecting the jury's finding of willfulness and denying WesternGeco's motions for willfulness and enhanced damages, but also 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 he would approve WesternGeco's motion for a permanent injunction and 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. On October 24, 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. The total damages award in the case now consists of the jury award of $105.9 million and the supplemental damages award of $73.1 million, plus prejudgment interest and court costs. The October 2013 Memorandum and Order also concluded that our infringement involving the supplemental units was not willful and that WesternGeco was not entitled to receive enhanced damages.

The next probable step in the case is for the trial court judge to sign and enter a final judgment. As of the filing date of this Annual Report on Form 10-K, the Court had not yet entered a final judgment in the case.

Upon the entering of a final trial court judgment, we intend to appeal the judgment to the United States Court of Appeals for the Federal Circuit. WesternGeco would also have the right to elect to appeal any final judgment.

Either within its final judgment or in a separate order entered after its final judgment, the trial court has ruled that it will also enter a permanent injunction against us. As of the filing date of this Annual Report on Form 10-K, the Court had not issued the final terms of the permanent injunction. Until the permanent injunction is entered, the final terms of the injunction cannot be known for certain, but it is likely that the permanent injunction will prohibit us from supplying our DigiFIN units, two parts that are unique to the DigiFIN product and related software from the United States to our customers overseas with an intention for the customers to combine DigiFIN and the software with other required components of the patent claims. Although no permanent injunction has yet been entered, we have conducted our business in compliance with the Court's orders in the case, and we have reorganized our operations such that we no longer supply DigiFIN units, the unique DigiFIN parts or the related software from the United States.

Based on our analysis after the trial court's Memorandum and Order in June 2013 denying our post-verdict motions that challenged the jury's infringement findings and the damages amount, we increased our loss contingency accrual related to this case from $10.0 million to $120.0 million, consisting of jury verdict damages, court costs and estimates of prejudgment interest and supplemental damages. Based on our analysis after the trial court's Memorandum and Order in October 2013 awarding supplemental damages, we further increased our loss contingency accrual related to this case from $120.0 million, to $193.3 million at December 31, 2013, consisting of jury verdict damages, supplemental damages, court costs and estimates of prejudgment interest. Additional interest will continue to accrue until this legal matter is fully resolved.

Our assessment of our potential loss contingency may change in the future due to developments at the trial court or 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 or lesser loss contingency is probable. Any such reassessment could have a material effect on our financial condition or results of operations.

As stated above, we intend to appeal the trial court judgment to the United States Court of Appeals for the Federal Circuit. In order to stay the judgment during our appeal, we will be required to post an appeal bond with the trial court after the final trial court judgment is entered. The amount of the appeal bond is in the discretion of the trial court judge, but it could be required to be up to the full amount of damages entered in the judgment, plus court costs and interest. To be prepared for an adverse judgment in this case, we have arranged with sureties to post an appeal bond on our behalf. The sureties have indicated they will likely require us to post cash collateral to secure the appeal bond amount for as long as the bond is outstanding. We currently believe that the sureties will likely require cash collateral equal to 25% of the appeal bond amount, although they will likely have the contractual right to require cash collateral for up to the full amount of the bond. Until the final judgment is entered and an appeal bond is posted, the terms applicable to the appeal bond, including the amount of collateral required to secure the bond, are not final. Depending

on the size of the bond and the amount of collateral required, in order to collateralize the bond we would intend to utilize a combination of cash on hand and undrawn balances available under our revolving line of credit. If the appeal bond is required to cover the entire judgment amount and we are required to collateralize the full amount of the bond, we might also incur additional debt and/or equity financing. The collateralization of the full amount of a large appeal bond could have an adverse effect on our liquidity.

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If we are unable to post the appeal bond, we will be unable to stay enforcement of the trial court judgment during the appeal of the judgment. Until the trial court enters the final judgment and rules on the amount of the appeal bond, we are unable to determine for certain the required amount of the bond and whether and to what extent the sureties will require the appeal bond to be collateralized. Similarly, we are unable to predict the timing of the final judgment being entered by the trial court or the timing of posting the required appeal bond.

Any requirements that we collateralize the appeal bond will reduce our liquidity and may reduce the borrowings otherwise available under our credit facility. The current maturity date of any outstanding debt under our Credit Facility is March 2015. 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.

Fletcher

In November 2009, Fletcher International, Ltd. ("Fletcher"), the sole holder of all of the outstanding shares of our Series D Preferred Stock until June 2012, filed a lawsuit against us and certain of our directors in the Delaware Court of Chancery. In the lawsuit, styled Fletcher International, Ltd. v. ION Geophysical Corporation, et al, Fletcher alleged, among other things, that we violated Fletcher's consent rights contained in the Series D Preferred Stock Certificates of Designation, by (a) the execution and delivery of a convertible promissory note to the Bank of China, New York Branch by one of our subsidiaries (incorporated in Luxembourg), in connection with a bridge loan funded in October 2009 by Bank of China and (b) our Canadian subsidiary executing and delivering several promissory notes in 2008 in connection with our acquisition of ARAM Systems Ltd. Fletcher also alleged that our directors violated their fiduciary duties by allowing the subsidiaries to deliver the notes without Fletcher's consent. In a Memorandum Opinion issued in May 2010 in response to a motion for partial summary judgment, the judge dismissed all of Fletcher's claims against our named directors but also concluded that, because the bridge loan note executed by our Luxembourg subsidiary in 2009 was convertible into our common stock, Fletcher had the right to consent to the issuance of the note and that we had violated Fletcher's consent rights by that subsidiary's issuing the bridge loan note without Fletcher's consent. In March 2011, the judge dismissed certain additional claims asserted by Fletcher. In May 2012, the judge ruled that Fletcher did not have the right to consent with respect to two of the promissory notes executed and delivered by our Canadian subsidiary in September 2008 in connection with our purchase of ARAM Systems Ltd., but that (i) Fletcher did have the right to consent to the execution and delivery in December 2008 of a replacement promissory note in the principal amount of $35 million and (ii) we had violated Fletcher's consent rights by the subsidiary's executing and delivering the replacement promissory note without Fletcher's consent. Fletcher elected not to pursue damages related to the issuance of the replacement $35 million promissory note.

In June 2012, Fletcher filed a voluntary petition for relief under Chapter 11 of the U.S. Bankruptcy Code in the U.S. Bankruptcy Court for the Southern District of New York. Fletcher's shares of Series D Preferred Stock, which had been pledged by Fletcher to secure certain indebtedness, were sold by the pledgee to an affiliate of D.E. Shaw & Co., Inc. in June 2012. On September 30, 2013, the holder of the shares of Series D Preferred Stock converted all of the shares into shares of our common stock. After the conversion, there were no shares of Series D Preferred Stock outstanding.

After a trial to determine the amount of damages that we would owe Fletcher as a result of the bridge loan note being issued without Fletcher's consent, in December 2013 the presiding judge awarded Fletcher $300,000 in damages, plus prejudgment interest. We agreed to pay Fletcher the amount of $500,000 to settle the case and all rights of appeal. The amount of the settlement, along with our fees and expenses incurred in connection with the case, is covered by insurance, subject to applicable deductibles.

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.

	Price Range	
Period	High	Low
Year ended December 31, 2013:		
Fourth Quarter	$5.36	$2.81
Third Quarter	6.58	4.59
Second Quarter	6.90	5.55
First Quarter	7.70	6.23
Year ended December 31, 2012:		
Fourth Quarter	$7.32	$5.52
Third Quarter	7.87	6.17
Second Quarter	7.74	5.29
First Quarter	8.79	6.09

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 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 also contain covenants that restrict us, subject to certain exceptions, from (i) paying cash dividends on our common stock and (ii) repurchasing and acquiring shares of our common stock unless there is no event of default under our credit agreement and the amount of such repurchases in any year does not exceed an amount equal to (A) 25% of our consolidated net income for the prior fiscal year, less (B) the amount of any permitted cash dividends paid on our common stock during such year.

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.

On December 31, 2013, there were 798 holders of record of our common stock.

During the three months ended December 31, 2013, 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	(b) Average Price Paid Per Share	(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, 2013 to October 31, 2013	—	$—	Not applicable	Not applicable
November 1, 2013 to November 30, 2013	—	$—	Not applicable	Not applicable
December 1, 2013 to December 31, 2013	94,167	$3.86	Not applicable	Not applicable
Total	94,167	$3.86		

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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 2013, 2012, 2011, 2010 and 2009, and with respect to our consolidated balance sheets at December 31, 2013, 2012, 2011, 2010 and 2009, 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 2009 – 2013 time period were impacted by the following items (before tax):

	Years Ended December 31,				
	2013	2012	2011	2010	2009
	(In thousands)				
Cost of sales:					
Write-down of excess and obsolete inventory	$(21,197)	$(1,280)	$—	$—	$—
Write-down of multi-client data library	$(5,461)	$—	$—	$—	$—
Operating expenses:					
Write-down of receivables	$(9,157)	$(5,640)	$—	$—	$—
Write-down of marine equipment	$—	$(5,928)	$—	$—	$—
Impairment of intangible assets	$—	$—	$—	$—	$(38,044)
Interest expense:					
Write-down of deferred financing charges, including amortization of non-cash debt discounts	$—	$—	$—	$(18,777)	$(6,732)
Other income (expense):					
Accrual for loss contingency related to legal proceedings	$(183,327)	$(10,000)	$—	$—	$—
Gain on legal settlements	$—	$30,895	$—	$24,500	$—
Equity in earnings (losses) of investments	$(42,320)	$297	$(22,862)	$(23,724)	$—
Loss on disposition of land equipment division	$—	$—	$—	$(38,115)	$—
Fair value adjustments of a warrant associated with certain bridge financing arrangements	$—	$—	$—	$12,788	$(29,401)
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,				
	2013	2012	2011	2010	2009
	(In thousands, except for per share data)				
Statement of Operations Data:					
Net revenues	$549,167	$526,317	$454,621	$444,322	$419,781
Gross profit	159,313	215,801	173,445	165,733	132,138
Income (loss) from operations	16,396	74,527	66,795	52,847	(58,216)
Net income (loss) applicable to common shares	(251,874)	61,963	23,422	(38,774)	(113,559)
Net income (loss) per basic share	$(1.59)	$0.40	$0.15	$(0.27)	$(1.03)
Net income (loss) per diluted share	$(1.59)	$0.39	$0.15	$(0.27)	$(1.03)
Weighted average number of common shares outstanding	158,506	155,801	154,811	144,278	110,516
Weighted average number of diluted shares outstanding	158,506	162,765	156,090	144,278	110,516
Balance Sheet Data (end of year):					
Working capital[(1)]	$248,857	$164,693	$163,677	$171,851	$(59,018)
Total assets	864,671	820,583	674,058	631,857	748,186
Notes payable and long-term debt	220,152	105,328	105,112	108,660	277,381
Total equity	257,885	499,019	425,812	380,447	282,468
Other Data:					
Investment in multi-client library	$114,582	$145,627	$143,782	$64,426	$89,635
Capital expenditures	16,914	16,650	11,060	7,372	2,966
Depreciation and amortization (other than multi-client library)	18,158	16,202	13,917	24,795	47,911
Amortization of multi-client library	86,716	89,080	77,317	85,940	48,449

(1) The negative working capital position as of December 31, 2009 shown above was the result of the re-classification of the majority of our then outstanding long-term debt as current and as a result of the fair value of a warrant associated with our prior bridge financing arrangements.

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 Notes to Consolidated Financial Statements that appear elsewhere in this Annual Report on Form 10-K. References to “Notes” in the discussion below refer to the numbered Notes 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.

We are a global, technology-focused seismic solutions company. Our services and products include data processing and reservoir imaging services; planning services for survey design and optimization; navigation, command and control and data management software products; and marine and land seismic data acquisition equipment. In addition, we maintain a multi-client data library with seismic data acquired and processed from surveys of offshore and onshore regions around the world. We serve customers in all major energy producing regions of the world from strategically located offices in 21 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 services, technologies and products are used by oil and gas exploration and production (“E&P”) companies and seismic acquisition contractors to generate high-resolution images of the Earth's subsurface in order to identify new sources of hydrocarbons and pinpoint drilling locations for wells, which can be costly and involve high risk.

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We provide our services and products through three business segments - Solutions, Systems and Software. In addition, we have a 49% ownership interest in our INOVA Geophysical joint venture and an ownership interest in our OceanGeo joint venture, which we increased from 30% to 70% in January 2014.

For over 45 years we have been engaged in providing innovative seismic data acquisition technology, such as full-wave imaging capability with VectorSeis® products, cableless seismic techniques and the ability to record seismic data from basins that underlie ice fields in the Arctic region. Our advanced technologies offered include Orca®, our WiBand™ data processing technology, Calypso®, Narwhal™, INOVA Geophysical's cableless Hawk™ land system and a new cabled system (G3i) and other technologies, each designed to deliver improvements in both image quality and productivity. We have more than 550 patents and pending patent applications in various countries around the world. Approximately 51% of our employees are involved in technical roles and approximately 22% of our employees have advanced degrees.

Solutions. Our Solutions business provides advanced seismic data processing services for marine and land environments, reservoir solutions, onboard processing and quality control, seismic data libraries and services by our GeoVentures® group. We maintain approximately 10.5 petabytes of seismic data digital information storage in 12 global data centers, including our largest data center in Houston.

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

Our GXT Imaging Solutions group offers processing and imaging services designed to help our E&P customers reduce exploration and production risk, evaluate and develop reservoirs and increase production. GXT develops a series of subsurface images by applying its processing technology to data owned or licensed by its customers and also provides its customers with support services (including onboard seismic vessel services), such as data pre-conditioning for imaging and outsourced management (including quality control) of seismic data acquisition and image processing services.

The 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 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, the development of our basin exploration seismic data programs has 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, deepwater Gulf of Mexico and Australia.

Software. Our Software business provides command and control software systems and related services for navigation and data management functions involving towed marine streamer and seabed operations. Our proprietary software, with over 13 million lines of code, is installed on towed streamer marine vessels worldwide and is a component of many re-deployable and permanent seabed monitoring systems. Through our Software business, we provide marine imaging, seabed imaging and survey design, planning and optimization.

During the third quarter of 2013, we announced the launch of our Narwhal system, which enables operators to gather, monitor and analyze data from various sources, including satellite imagery, ice charts, radar, manual observations, wind and ocean currents, in order to forecast weather and predict ice movements in the harsh environments of the Arctic. We believe that this system will give operators the ability to better track, forecast and monitor potential ice threats, and thereby make informed, proactive decisions to ensure the safety of people, assets, and the environment while minimizing operational downtime.

Systems. The traditional business of our Systems segment has been manufacturing marine towed streamer and re-deployable ocean-bottom cable seismic data acquisition systems, shipboard recorders, streamer positioning and control systems, energy sources and analog geophone sensors. However, in the third quarter of 2013, we determined to restructure our product offerings in our Systems segment (see “— Restructuring and Other Charges” below). Following this restructuring, our Systems business will be engaged solely in manufacturing of (i) re-deployable ocean-bottom

cable seismic data acquisition systems and shipboard recorders; (ii) towed streamer acquisition, positioning and control systems and energy sources; and (iii) analog geophone sensors.

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INOVA Geophysical. We conduct our land seismic equipment business through INOVA Geophysical Equipment Limited ("INOVA Geophysical" or "INOVA"), which is a joint venture with BGP Inc. ("BGP"). BGP is a subsidiary of China National Petroleum Corporation, and 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, cableless and radio-controlled seismic data acquisition systems, digital sensors, vibroseis vehicles (i.e., vibrator trucks) and source controllers for detonator and energy sources business lines. INOVA's research and development centers are located primarily in the U.S. and Canada, although the joint venture intends to evaluate lower-cost manufacturing opportunities in China. In addition, we and BGP often field-test, and we expect to field-test further, INOVA's new technologies and related equipment for operational feedback and quality improvements.

During the third quarter of 2013, INOVA Geophysical restructured its business and related product lines in order to reduce costs in light of current market fundamentals and competitive pressures. See "— Restructuring and Other Charges" below.

Investment in OceanGeo

In February 2013, we purchased from Reservoir Exploration Technology ASA for $1.5 million its 30% interest in OceanGeo B.V. (formerly known as GeoRXT B.V.). OceanGeo is headquartered in Rio de Janeiro, Brazil, and specializes in seismic acquisition operations using ocean-bottom cables deployed from vessels leased by OceanGeo. We were originally granted an option, exercisable at any time on or before May 15, 2013, to increase our ownership percentage to 50% by making additional capital contributions to OceanGeo. We also at that time provided OceanGeo with an $8.0 million working capital loan, the repayment of which was guaranteed by our majority joint venture partner in OceanGeo, Georadar Levantamentos Geofisicos S/A ("Georadar"). No repayments were made under the loan, and the full $8.0 million indebtedness under the loan remained outstanding as of December 31, 2013. In addition, during 2013 we sold certain seismic equipment to OceanGeo, and Georadar guaranteed the payment of the equipment purchase price. As of December 31, 2013, OceanGeo owed $7.0 million to us for the equipment.

During 2013, OceanGeo experienced a sharp pull-back in business in its home market of Brazil, which resulted in its anticipated backlog being reduced to zero. We assisted OceanGeo with its move into the international market, in meeting prequalification requirements in order to obtain work from international E&P companies through the tender cycle, and with bid preparation. Although we had expected to increase our ownership interest in OceanGeo from our 30% level, we delayed doing so to give the joint venture an opportunity to secure backlog within Brazil and beyond. We remained fully committed to putting our Calypso seabed acquisition technology to work in a service model to meet the growing demand for seabed seismic.

In October 2013, we reached agreement with Georadar, which gave us the option to increase our ownership percentage in OceanGeo to 70% in lieu of the earlier option granted to us. To further assist OceanGeo in acquiring backlog, in October 2013 we agreed to loan OceanGeo additional funds for working capital, subject to our agreement on the necessity and purpose for each advance and certain other conditions, up to a maximum of $25.0 million. As of December 31, 2013, we had advanced an additional $15.3 million to OceanGeo under this additional loan.

In November 2013, OceanGeo was awarded a new seismic acquisition project by a customer, but OceanGeo and the customer did not complete the project contract and all prerequisites to commence the project until late December 2013.

In January 2014, we exercised our option to increase our ownership interest in OceanGeo to 70%, with Georadar owning the remaining 30%. In connection with our increase in ownership, we converted into additional equity interests of OceanGeo the indebtedness owed to us under the $8.0 million working capital loan and approximately $3.0 million of the original $7.0 million owed to us for the purchase of equipment by OceanGeo. The guaranties provided to us by Georadar with regard to the loan and the equipment purchase obligations were also terminated.

Restructuring and Other Charges

Geophysical contractors have traditionally been significant customers of our products and services. However, due to current marketplace pressures that have resulted principally from further consolidation in the geophysical contractor industry in recent years, we initiated a restructuring of our Systems business and related product lines so that we could be more oriented toward providing services and selling directly to E&P customers. We anticipate that for the

foreseeable future, our Systems business will focus all of its development efforts on ocean-bottom cable systems. We plan to continue to manufacture towed streamer systems, but will no longer invest in the development of a next-generation towed streamer system. Through this restructuring, we are closing certain manufacturing facilities and have reduced headcount in Systems personnel by approximately 31%, reducing their costs by approximately $12 million per year.

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In addition, during the third quarter of 2013, INOVA Geophysical initiated a restructuring of its product lines in response to continued softness in the land seismic equipment market and competition among the land equipment providers for both cabled and cableless acquisition systems. The restructuring within INOVA Geophysical was intended to enable the business to operate profitably at lower revenue levels. The restructuring primarily involves reducing headcount in order to reduce INOVA Geophysical's cost structure; since the third quarter of 2013, INOVA Geophysical has reduced its employee headcount by approximately 20%. As a result of INOVA Geophysical's restructuring, INOVA Geophysical has reduced its annual operating costs by approximately $12 million, and we will share in 49% of those savings.

See Note 17 "Restructuring Activities" of Notes to Consolidated Financial Statements.

Senior Secured Second-Priority Notes

In May 2013, we sold $175 million aggregate principal amount of 8.125% Senior Secured Second-Priority Notes due 2018 (the "Notes") in a private offering. The Notes represent senior secured second-priority obligations guaranteed by our material U.S. subsidiaries, and mature on May 15, 2018. Interest on the Notes accrues at the rate of 8.125% per annum and is payable semiannually on May 15 and November 15 of each year during their term. The first interest payment on the Notes was made on November 15, 2013. We used the net proceeds from the offering to repay outstanding indebtedness under our senior secured credit facility with China Merchants Bank Co., Ltd., New York Branch, as administrative agent and lender ("CMB"), and for general corporate purposes. For further information regarding these Notes and our Credit Facility, see Note 4 "Long-term Debt and Lease Obligations" of Notes to Consolidated Financial Statements.

WesternGeco Legal Proceedings

As described above in Part I, Item 3. "Legal Proceedings," an August 2012 jury verdict in the WesternGeco L.L.C. v. ION Geophysical Corporation lawsuit found that we had willfully infringed claims contained in four patents 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 in the WesternGeco lawsuit entered a Memorandum and Order rejecting the jury's finding of willfulness and denying WesternGeco's motions for willfulness and enhanced damages, but also denying our post-verdict motions that challenged the jury's infringement findings and the damages amount. Based on our analysis after the trial court's Memorandum and Order, we increased our loss contingency accrual related to this case from $10.0 million to $120.0 million as of June 30, 2013. The loss contingency accrual amount consisted of jury verdict damages, court costs and estimates of prejudgment interest and supplemental damages.

On October 24, 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. The total damages award in the case now consists of the jury award of $105.9 million and the supplemental damages award of $73.1 million, plus prejudgment interest and court costs. The October 2013 Memorandum and Order also concluded that our infringement involving the supplemental units was not willful and that WesternGeco was not entitled to receive enhanced damages.

Based on our analysis of the trial court's October 2013 Memorandum and Order, we concluded that we should increase our loss contingency accrual related to this case. At December 31, 2013, our loss contingency accrual totaled $193.3 million, which consists of jury verdict damages, supplemental damages, court costs and estimates of prejudgment interest.

Upon any further rulings or developments in the case, we will evaluate whether the accrual should be further adjusted. See further discussion at Part I, Item 3. "Legal Proceedings."

Estimated amounts of loss contingency accruals 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 less than these accrual amounts.

Economic Conditions

Demand for our seismic data acquisition services and products has traditionally been cyclical and substantially dependent upon activity levels in the oil and gas industry, particularly our customers' willingness and ability to expend

their capital for oil and natural gas exploration and development projects. This demand is sensitive to current and expected future crude oil and natural gas prices. In 2013, WTI spot crude oil prices remained in a range of approximately $90 to $110 per barrel, finishing the year near $95 per barrel. Brent crude oil prices remained in a range of $97 to $118 per barrel, finishing the year near $110 per barrel.

Energy price forecasts are by their nature highly uncertain, but external reports indicate that WTI crude oil prices and Brent crude oil prices are expected to remain in price ranges of $80 to $110 and $100 to $130 per barrel, respectively, for 2014.

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U.S. Henry Hub natural gas prices traded in a range of $3.15 to $4.50 per MMBtu, ending the year at approximately $4.30 per MMBtu. We believe demand for natural gas will continue to grow because it is increasingly being used to supplant coal as the preferred fuel for the generation of U.S. electric power.

For 2013, our Solutions segment revenues increased over 2012 results, due to significantly higher data library sales and modest growth in new ventures and data processing. In the fourth quarter, revenues from data library sales more than doubled due to sales of data sets with respect to offshore East and West Africa, East and West India and the Gulf of Mexico. However, there continues to be a softening multi-client data market. There currently appears to be an over-supply of marine proprietary seismic data acquisition capacity, which creates opportunities for geophysical contractors to increase participation in the multi-client market. As a result of this excess supply driving lower than expected customer underwriting levels in our multi-client business, we have delayed certain of our planned investments in new multi-client programs until we see more appropriate underwriting levels return. We invested approximately $30 million less in our seismic data library during 2013, compared to prior years. Our data processing revenues grew by 4% in 2013 due to (i) further international penetration driven by stronger demand in Europe and the Middle East, (ii) increased demand in the Gulf of Mexico, and (iii) continued demand for our broadband processing solution, WiBand. However, second-half 2013 revenues for data processing were negatively impacted by approximately $14.0-16.0 million of unrecorded revenues tied to a customer contract pending final execution. That contract was executed in February 2014. At December 31, 2013, our Solutions segment backlog, which consists of commitments for (i) data processing work and (ii) both multi-client new venture and proprietary projects by our GeoVentures group that have been underwritten, was $84.4 million compared with $151.3 million at December 31, 2012. The data processing contract that was executed in February 2014 adds an additional $20-$30 million to our backlog balance that existed at December 31, 2013. We anticipate that the majority of our backlog at December 31, 2013 will be recognized as revenue over the first half of 2014.

Our Software segment revenues decreased for 2013 compared to 2012, primarily due to the impact of recent consolidation in marine geophysical contractors, causing decreased revenues from our Gator® seabed software and our Orca towed streamer software.

Revenues for our Systems segment decreased in 2013 compared to 2012. Sales of our towed marine streamer products have decreased primarily due to reduced demand from the shrinking marketplace as the industry continues to work through spare capacity resulting from the recent consolidation of marine geophysical contractors.

INOVA Geophysical reported a slight decrease in revenues for 2013, compared to 2012. This decrease in revenues was principally due to decreased sales in all major product categories, including rentals, except for sales of its G3i cable-based land data acquisition system, which experienced increased sales, partially offsetting the decreases in sales for its other products. Gross profits and gross margin decreased for 2013 to 2012 primarily due to the decrease in revenues from rental equipment.

OceanGeo reported significant losses in 2013 due to OceanGeo’s vessels and crew being idle for approximately five months during 2013. In late December 2013, OceanGeo commenced seismic acquisition operations in Trinidad related to its recently awarded contract.

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, our next-generation VSO ocean-bottom cable system, WiBand broadband data processing technology, Orca, Narwhal and INOVA Geophysical’s newest technologies, will continue to attract customer interest, because those technologies are designed to deliver improvements in image quality within more productive delivery systems.

We remain confident that, despite current marketplace issues that we describe above, the long-term growth in demand for seismic services worldwide will continue. We expect growth in demand for seismic services to continue to remain positive for the foreseeable future, and we remain positioned to achieve year-over-year improvement in both our revenue and profitability for 2014 as compared to 2013. However, in stating these expectations, we are assuming that (i) the global and U.S. economies will not slip back into a recession, (ii) the prices of WTI and Brent crude oil will remain predominantly above $80 and $100 per barrel, respectively, and (iii) there will be increasing demand for seismic services in the Middle East and North Africa resulting from improved geopolitical stability in those areas.

Key Financial Metrics

Our results of operations have been materially affected by the restructuring within our Systems segment and our INOVA Geophysical joint venture, 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 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.

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The tables below provide (i) a summary of our net revenues for our company as a whole, and by segment, for 2013, 2012 and 2011, and (ii) an overview of other certain key financial metrics for our company as a whole and our three business segments on a comparative basis (a) for 2013 and 2012, as reported and as adjusted in both years for the restructuring and other charges recorded for those years, and (b) for 2012 as reported and as adjusted, and 2011 on an as reported, unadjusted basis.

For certain tabular information on the operating results of our INOVA Geophysical joint venture and our OceanGeo joint venture, see "— Other Items — Equity in Earnings (Losses) of Investments."

	Years Ended December 31,		
	2013	2012	2011
	(In thousands)		
Net revenues:			
Solutions:			
New Venture	$154,578	$147,346	$98,335
Data Library	111,998	88,085	76,332
Total multi-client revenues	266,576	235,431	174,667
Data Processing	120,808	115,834	88,783
Total	$387,384	$351,265	$263,450
Systems:			
Towed Streamer	$66,991	$77,769	$111,453
Ocean bottom	7,307	14,823	960
Other	48,134	39,404	40,591
Total	$122,432	$131,996	$153,004
Software:			
Software Systems	$35,418	$39,738	$36,031
Services	3,933	3,318	2,136
Total	$39,351	$43,056	$38,167
Total	$549,167	$526,317	$454,621

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	Year Ended December 31, 2013			Year Ended December 31, 2012			Year Ended December 31, 2011
	As Reported	Restructuring and Other Charges	As Adjusted	As Reported	Restructuring and Other Charges	As Adjusted	
	(In thousands, except per share data)						
Gross profit:							
Solutions	$111,108	$5,461 [a]	$116,569	$132,950	$—	$132,950	$84,647
Systems	19,999	25,688 [b]	45,687	50,790	1,280 [d]	52,070	61,109
Software	28,206	—	28,206	32,061	—	32,061	27,689
Total	$159,313	$31,149	$190,462	$215,801	$1,280	$217,081	$173,445
Gross margin:							
Solutions	29 %	1 %	30 %	38 %	— %	38 %	32 %
Systems	16 %	21 %	37 %	38 %	1 %	39 %	40 %
Software	72 %	— %	72 %	74 %	— %	74 %	73 %
Total	29 %	6 %	35 %	41 %	— %	41 %	38 %
Income from operations:							
Solutions	$61,146	$5,461 [a]	$66,607	$88,589	$—	$88,589	$50,620
Systems	(9,957)	28,050 [b]	18,093	10,132	12,848 [d]	22,980	33,034
Software	23,602	—	23,602	28,129	—	28,129	24,463
Corporate and other	(58,395)	9,157 [c]	(49,238)	(52,323)	—	(52,323)	(41,322)
Total	$16,396	$42,668	$59,064	$74,527	$12,848	$87,375	$66,795
Operating margin[f]:							
Solutions	16 %	1 %	17 %	25 %	— %	25 %	19 %
Systems	(8)%	23 %	15 %	8 %	9 %	17 %	22 %
Software	60 %	— %	60 %	65 %	— %	65 %	64 %
Corporate and other	(11)%	2 %	(9)%	(10)%	— %	(10)%	(9)%
Total	3 %	8 %	11 %	14 %	3 %	17 %	15 %
Net income (loss) applicable to common shares	$(251,874)	$271,208 [e]	$19,334	$61,963	$(369)	$61,594	$23,422
Diluted net income (loss) per common share	$(1.59)	$1.71	$0.12	$0.39	$—	$0.39	$0.15

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(a) Represents the partial write-down of a multi-client data library program.

(b) Represents excess and obsolete inventory write-downs and severance-related charges as a result of a restructuring of the Systems segment.

(c) Represents the write-down of the carrying value of all receivables due from OceanGeo at September 30, 2013.

(d) Represents the write-down of excess and obsolete inventory, marine equipment and receivables within the Systems segment in 2012.

(e) In addition to items (a) – (c), 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.

(f) Operating margin is income from operations divided by net revenues, and shows the proportion of net revenues left after paying certain variable charges, such as wages, raw materials, etc.

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 of INOVA Geophysical on a one fiscal quarter lag basis. Thus, for 2013, 2012 and 2011, we recognized in our consolidated results of operations our share of earnings (losses) in INOVA Geophysical of approximately $(22.5) million, $0.3 million and $(22.9) million, respectively.

In 2013, we accounted for our 30% interest in OceanGeo as an equity method investment and recorded our share of earnings of OceanGeo on a current quarter basis, unlike INOVA Geophysical, for which we record results on a one fiscal quarter lag basis. For 2013, we recognized in our consolidated results of operations our share of earnings (losses) in OceanGeo of approximately $(19.8) million.

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, 2013 (As Adjusted) Compared to Year Ended December 31, 2012 (As Adjusted)

Our total net revenues of $549.2 million for 2013 increased $22.9 million, or 4%, compared to total net revenues for 2012. Our overall gross profit percentage for 2013 was 35%, as adjusted, compared to 2012's gross profit percentage of 41%, as adjusted. Total operating expenses, as adjusted, as a percentage of net revenues for 2013 and 2012 were 24% and 25%, respectively. During 2013, income from operations, as adjusted, of $59.1 million compared to $87.4 million, as adjusted, for 2012. Net loss for 2013 was $251.9 million, or $(1.59) per diluted share, compared to net income of $62.0 million, or $0.39 per diluted share for 2012. As noted above, 2013 included restructuring and other charges totaling $271.2 million, impacting our diluted earnings per share by $1.71.

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

Solutions — Net revenues for 2013 increased by $36.1 million, or 10%, to $387.4 million, compared to $351.3 million for 2012. This increase was primarily driven by a large increase in our data library sales and nominal increases in new ventures and data processing revenues. Sales in the fourth quarter of 2013 of $166.1 million, or 43% of total annual

Solutions revenues for 2013, increased primarily due to a significant increase in data library sales, mainly relating to offshore East and West Africa, East and West India and the Gulf of Mexico. Sales are typically higher in the fourth quarter of each year compared to the prior three quarters. Gross profit decreased by $16.4 million to $116.6 million, as adjusted, representing a 30% gross margin, compared to $133.0 million, or a 38% gross margin, for 2012. This decrease was attributable to (i) cost overruns on our 3-D marine program during the first half of 2013 and (ii) the negative impact of approximately $14.0-$16.0 million of unrecorded revenues tied to a customer contract pending final execution.

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Systems — Net revenues for 2013 decreased by $9.6 million, or 7%, to $122.4 million, compared to $132.0 million for 2012. Fourth quarter 2013 sales accounted for $40.5 million, or 33%, of total annual Systems revenues for 2013. Sales in the fourth quarter of each year typically account for the largest share of sales each year. This decrease in revenues in 2013 was principally due to reduced demand from the shrinking marketplace and spare capacity in the industry resulting from recent further consolidation of marine geophysical contractors; these conditions contributed to a decrease in sales of new towed streamer systems. This decrease was partially offset by increasing levels of repair work from the existing installed product base with our customers. Gross profit for 2013 decreased by $6.4 million to $45.7 million, as adjusted, representing a 37% gross margin, compared to $52.1 million, as adjusted, representing a 39% gross margin, for 2012. The decrease in gross profits was due to the change in revenues, as described above.

Software — Net revenues for 2013 decreased by $3.7 million, or 9%, to $39.4 million, compared to $43.1 million for 2012. This decrease in revenues was due in part to decreased revenues from our Gator seabed software and declines in our Orca towed streamer software revenues. The reduction in revenues for seabed software was due primarily to our previous customer, RXT, filing for bankruptcy in June 2013. The declines in towed streamer software revenues were due to continuing consolidation in the towed streamer contractor sector. Gross profit for 2013 decreased by $3.9 million to $28.2 million, representing a 72% gross margin, compared to $32.1 million, for 2012, which represented a 74% gross margin.

Operating Expenses (as adjusted for Restructuring and Other Charges)

	Year Ended December 31, 2013			Year Ended December 31, 2012		
	As Reported	Restructuring and Other Charges[a]	As Adjusted	As Reported	Restructuring and Other Charges[b]	As Adjusted
	(In thousands)					
Operating expenses:						
Research, development and engineering	$37,742	$(1,388)	$36,354	$34,080	$—	$34,080
Marketing and sales	38,583	(277)	38,306	35,240	—	35,240
General, administrative and other operating expenses	66,592	(9,854)	56,738	71,954	(11,568)	60,386
Total operating expenses	$142,917	$(11,519)	$131,398	$141,274	$(11,568)	$129,706

(a) Represents severance-related charges as a result of a restructuring of the Systems segment and the write-down of the carrying value of receivables due from OceanGeo.

(b) Represents the write-down of marine equipment and receivables within the Systems segment in 2012.

Research, Development and Engineering — Research, development and engineering expense was $36.4 million, as adjusted, or 7% of net revenues, for 2013, an increase of $2.3 million compared to $34.1 million, or 6% of net revenues, for 2012. This increase in research and development expense was primarily due to increased investment of labor and technology related to product development. During 2013, we continued to invest in Calypso, our next generation re-deployable seabed seismic data acquisition system and Narwhal, our ice management system for operations in harsh Arctic environments.

Marketing and Sales — Marketing and sales expense of $38.3 million, as adjusted, or 7% of net revenues, for 2013, increased $3.1 million compared to $35.2 million, or 7% of net revenues, for 2012. This increase in marketing and sales expense was primarily due to investment in our Solutions sales teams to support the continued growth in the Solutions segment.

General, Administrative and Other Operating Expenses — General, administrative and other operating expenses of $56.7 million, as adjusted, for 2013 decreased $3.6 million compared to $60.4 million, as adjusted, for the corresponding period of 2012. General, administrative and other operating expenses as a percentage of net revenues for 2013 and

2012 were 10% and 11%, respectively. This decrease was primarily related to the lower levels of legal costs incurred during 2013 compared to those incurred in connection with the WesternGeco trial in 2012. See further discussion at Part I, Item 3. “Legal Proceedings.”

Other Items

Interest Expense, net — Interest expense, net, of $12.3 million for 2013 increased compared to $5.3 million for 2012. This increase is directly related to the issuance of the Notes in May 2013, which carry a higher interest rate and represent a greater principal amount outstanding, than do the interest rate and the average outstanding balance of indebtedness under our revolving line of credit, which was our only major indebtedness outstanding in 2012. For additional information, please refer to “— Liquidity and Capital Resources — Sources of Capital” below.

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Equity in Losses of Investments — We account for our investments in both INOVA Geophysical and OceanGeo as equity method investments.

We record 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, 2012 to September 30, 2013 ("Fiscal 2013") and from October 1, 2011 to September 30, 2012 ("Fiscal 2012") were included in our consolidated financial results for fiscal 2013 and fiscal 2012, respectively. For 2013, we recorded our 49% share of equity in INOVA Geophysical's losses of approximately $22.5 million (including $18.8 million representing our share of several one-time restructuring charges and write-downs of excess and obsolete inventory). For 2012, we recorded our 49% share in INOVA Geophysical's earnings of approximately $0.3 million.

The following table reflects the summarized financial information for INOVA Geophysical for Fiscal 2013 and Fiscal 2012 (in thousands):

	Fiscal 2013	Fiscal 2012
Total net revenues	$183,619	$188,336
Gross profit (loss)	$(1,988)[1]	$39,320
Income (loss) from operations	$(44,463)	$3,241
Net income (loss)	$(46,149)[1]	$2,197

(1) 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.

In 2013, we accounted for our 30% interest in OceanGeo as an equity method investment and recorded our share of earnings of OceanGeo on a current quarter basis. For the first three quarters of 2013, our 30% share of losses were $7.4 million. During the fourth quarter of 2013, we increased our economic interest to 70%, but we did not acquire control of OceanGeo through our 70% share ownership until January 2014, and recorded $12.5 million of losses. For 2013, our consolidated results of operations included a total of $19.8 million representing our share of losses of OceanGeo.

The following table reflects the summarized financial information for OceanGeo for 2013 (in thousands):

	Period from March 1, to December 31, 2013
Total net revenues[2]	$19,668
Gross profit (loss)	$(22,918)
Income (loss) from operations	$(40,443)
Net income (loss)	$(42,391)

(2) During the second half of 2013, OceanGeo vessels and crew remained idle. OceanGeo was awarded a 4-5 month, 510 square km ocean bottom 3D seismic survey offshore Trinidad, and the company began seismic data acquisition work on the project in late December 2013.

Other Income (Expense) — Other expense for 2013 was $182.5 million compared to other income of $17.1 million for 2012. The difference primarily relates to the settlements of litigation and the accrual for loss contingency related to a legal matter. See further discussion at Part 1, Item 3, "Legal Proceedings."

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

	Years Ended December 31, 2013	2012
Accrual for loss contingency related to legal proceedings (Note 16)	$(183,327)	$(10,000)

Gain on sale of a cost method investment	3,591	—
Gain on legal settlements (Note 16)	—	30,895
Other income (expense)	(2,794)	(3,771)
Total other income (expense)	$(182,530)	$17,124

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Income Tax Expense — Income tax expense for 2013 was $25.7 million compared to $23.9 million for 2012. Our effective tax rates for 2013 and 2012 were (11.6)% and 27.5%, respectively. The change in our effective tax rate between 2013 and 2012 was due to the establishment during 2013 of an additional valuation allowance on U.S. federal net deferred tax assets and nondeductible equity losses related to OceanGeo and INOVA Geophysical. Our effective tax rate for 2013, excluding changes in the valuation allowance, was 28.3%. We currently maintain a valuation allowance on substantially all net deferred tax assets.

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 6,065,075 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.

Year Ended December 31, 2012 (As Adjusted) Compared to Year Ended December 31, 2011

Our total net revenues of $526.3 million for 2012 increased $71.7 million, or 16%, compared to total net revenues for 2011. Our overall gross profit percentage for 2012 was 41%, as adjusted, compared to 2011's gross profit percentage of 38%. Total operating expenses as a percentage of net revenues for 2012 and 2011 were 25% and 23%, respectively. During 2012, income from operations, as adjusted, was $87.4 million, as adjusted, compared to $66.8 million for 2011. Net income for 2012 was $62.0 million, or $0.39 per diluted share, compared to net income of $23.4 million, or $0.15 per diluted share for 2011.

Net Revenues, Gross Profits and Gross Margins

Solutions — Net revenues for 2012 increased by $87.8 million, or 33%, to $351.3 million, compared to $263.5 million for 2011. This increase was predominantly driven by improved data processing revenues due to post-Macondo recovery in the Gulf of Mexico and continued international expansion; higher GeoVentures revenue related to growth in new venture activity, including programs offshore Latin America, Africa and in the Arctic, as well as ResSCAN™ land programs in North America, and growth in data library sales related to programs offshore Latin America, Africa, Australia and in the Arctic. Gross profit for 2012 increased by $48.3 million to $133.0 million, representing a 38% gross margin, compared to $84.6 million, or a 32% gross margin, for 2011, primarily attributable to the recovery and expansion of our data processing business during 2012 and a more profitable mix of programs in GeoVentures.

Systems — Net revenues for 2012 decreased by $21.0 million, or 14%, to $132.0 million, compared to $153.0 million for 2011. This decrease was driven primarily by lower volumes of towed marine streamer positioning equipment in 2012, partially offset by improved ocean-bottom cable sales. In 2011, we recognized revenue from the sale to BGP of a DigiSTREAMER™ twelve-streamer system, which was not replicated in 2012. Gross profit for 2012 decreased by $9.0 million to $52.1 million, as adjusted, representing a 39% gross margin, compared to $61.1 million, representing a 40% gross margin, for 2011. The decrease in gross margins in our Systems segment was primarily due to reduced sales of towed marine streamer positioning equipment.

Software — Net revenues for 2012 increased by $4.9 million, or 13%, to $43.1 million, compared to $38.2 million for 2011. Excluding the effects of foreign currency translation, revenues for 2012 increased 11% due to continued demand for the Orca and Gator software platforms. Gross profit for 2012 increased by $4.4 million to $32.1 million, representing a 74% gross margin, compared to $27.7 million, for 2011, which represented a 73% gross margin. Gross profit for 2012 increased in line with revenue while gross margins increased only slightly from 2011 to 2012. Gross margins remained high due to significantly higher software sales, which carry a much higher gross margin than other products and services. Software sales represented 65% of total sales in this segment for 2012 in local currency, compared to 58% of total segment sales in 2011.

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Operating Expenses (as adjusted for Restructuring and Other Charges)

	Year Ended December 31, 2012			Year Ended December 31, 2011
	As Reported	Restructuring and Other Charges[(a)]	As Adjusted	
	(In thousands)			
Operating expenses:				
Research, development and engineering	$34,080	$—	$34,080	$24,569
Marketing and sales	35,240	—	35,240	31,269
General, administrative and other operating expenses	71,954	(11,568)	60,386	50,812
Total operating expenses	$141,274	$(11,568)	$129,706	$106,650

(a) Represents the write-down of marine equipment and receivables within the Systems segment in 2012.

Research, Development and Engineering — Research, development and engineering expense was $34.1 million, or 6% of net revenues, for 2012, an increase of $9.5 million compared to $24.6 million, or 5% of net revenues, for 2011. This increase in research and development expense was primarily due to increased investment of labor and technology related to product development. Related to our product development efforts, our Systems and Solutions segments increased expenditures on field tests in 2012 versus 2011.

Marketing and Sales — Marketing and sales expense of $35.2 million, or 7% of net revenues, for 2012, increased $4.0 million compared to $31.3 million, or 7% of net revenues, for 2011. This increase in marketing and sales expense was primarily due to investment in our Solutions sales teams to support the continued growth in the Solutions segment.

General, Administrative and Other Operating Expenses — General, administrative and other operating expenses of $60.4 million, as adjusted, for 2012 increased $9.6 million compared to $50.8 million for 2011. General, administrative and other operating expenses as a percentage of net revenues for 2012, as adjusted, and 2011 remained constant at 11% for each year. The increase in these expenses was primarily due to significantly higher legal fees and expenses ($9.0 million) incurred in 2012 in defending the lawsuit brought against us by WesternGeco. See further discussion at Part I, Item 3. “Legal Proceedings.”

Other Items

Interest Expense, net — Interest expense, net, of $5.3 million for 2012 decreased slightly compared to $5.8 million for 2011. For additional information, please refer to “— Liquidity and Capital Resources — Sources of Capital” below.

Equity in Earnings (Losses) of Investments — We account for our 49% interest in INOVA Geophysical as an equity method investment and record our share of earnings and losses of INOVA Geophysical on a one fiscal quarter-lag basis. Thus, our share of INOVA Geophysical’s earnings (losses) for the periods from October 1, 2011 to September 30, 2012 (“Fiscal 2012”) and from October 1, 2010 to September 30, 2011 (“Fiscal 2011”) were included in our consolidated financial results for our fiscal years ended December 31, 2012 and December 31, 2011, respectively. For 2012, we recorded our 49% share of equity in INOVA Geophysical’s earnings of approximately $0.3 million, compared to equity losses of approximately $22.9 million (including $7.7 million that represented our share of a write-down of excess inventory) for 2011.

The following table reflects the summarized financial information for INOVA Geophysical for Fiscal 2012 and Fiscal 2011 (in thousands):

	Fiscal 2012	Fiscal 2011
Total net revenues	$188,336	$138,735
Gross profit	$39,320	$5,765
Income (loss) from operations	$3,241	$(41,836)
Net income (loss)	$2,197	$(46,033)

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Other Income (Expense) — Other income for 2012 was $17.1 million compared to other expense of $3.4 million for 2011. The difference primarily relates to the settlements of litigation. See further discussion at Part 1, Item 3, “Legal Proceedings.”

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

	Years Ended December 31,	
	2012	2011
Accrual for loss contingency related to legal proceedings (Note 16)	$(10,000)	$—
Gain on legal settlements (Note 16)	30,895	—
Other income (expense)	(3,771)	(3,447)
Total other income (expense)	$17,124	$(3,447)

Income Tax Expense — Income tax expense for 2012 was $23.9 million compared to $10.1 million for 2011. Our effective tax rates for 2012 and 2011 were 27.5% and 29.2%, respectively. The change in our effective tax rate between 2012 and 2011 was due to a reduction in the valuation allowance on U.S. federal net deferred tax assets, partially offset by changes in the distribution of earnings between U.S. and foreign jurisdictions. We continue to maintain a valuation allowance for a portion of our U.S. federal net deferred tax assets that relate to capital losses and basis differences that will create capital losses.

Preferred Stock Dividends — The preferred stock dividend related to shares of our previously-outstanding Series D Preferred Stock, which were all converted to our common stock in 2013. Quarterly dividends at the rate of 5.0% per annum were paid in cash. The total amount of dividends paid on our preferred stock in 2012 was the same as in 2011.

Liquidity and Capital Resources

Sources of Capital

Our cash requirements include our working capital requirements, cash required for our debt service payments, multi-client seismic data acquisition activities and capital expenditures. As of December 31, 2013, we had working capital of $248.9 million, which included $148.1 million of cash on hand. Working capital requirements are primarily driven by our continued investment in our multi-client seismic data library ($114.6 million in 2013) and, to a lesser extent, our inventory purchase obligations. At December 31, 2013, our outstanding inventory purchase obligations were $17.4 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.

In January 2014, we exercised our option to increase our ownership interest in OceanGeo from 30% to 70%. This increase in ownership percentage requires us to loan OceanGeo additional funds for working capital. For further discussion on our investment in OceanGeo, see “ – Executive Summary – Investment in OceanGeo.”

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 the occurrence of certain contingent events, such as an adverse judgment in our WesternGeco litigation that 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 senior revolving credit facilities. At December 31, 2013, our principal outstanding credit facility consists of a revolving line of credit that permits borrowings of up to $175.0 million, of which $35.0 million was outstanding as of that date, leaving $140.0 million of unused and available capacity. In January 2014, we borrowed an additional $15.0 million on this credit facility with $50.0 million outstanding at February 24, 2014. We currently have $125.0 million available for borrowing under our senior revolving line of credit facility. We may also incur additional indebtedness in the future.

Senior Secured Second-Priority Notes — On May 13, 2013, we offered and sold $175 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, 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. We made our first interest payment on the Notes on November 15, 2013.

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We used the net proceeds from the offering to repay outstanding indebtedness under our senior secured credit facility with CMB (see "– Revolving Line of Credit" below) and for general corporate purposes. The Notes have not been registered under the Securities Act or applicable state securities laws and may not be offered or sold in the United States absent registration or an applicable exemption from the registration requirements of the Securities Act and applicable state laws. Pursuant to the registration rights agreement we entered into in connection with our offering and sale of the Notes, we agreed to use our commercially reasonable efforts to register the offer and sale of exchange notes having substantially identical terms as the Notes under the Securities Act as part of an offer to exchange freely tradable exchange notes for the Notes, as further described in our Current Report on Form 8-K filed with the SEC on May 8, 2013.

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%

For additional information regarding the terms of the Notes and related Indenture, Registration Rights Agreement and Intercreditor Agreement see our Current Report on Form 8-K filed with the SEC on May 13, 2013.

Revolving Line of Credit — On May 29, 2012, we amended the terms of our senior secured credit facility with CMB as administrative agent and lender (the "Credit Facility"). The First Amendment to Credit Agreement and Loan Documents (the "First Amendment") modified certain provisions of our senior credit agreement with CMB that we had entered into on March 25, 2010. The maturity date of any outstanding debt under the Credit Facility is March 24, 2015.

As amended by the First Amendment, our Credit Facility provides that we may make revolving credit borrowings in U.S. Dollars, Euros, British Pounds Sterling or Canadian Dollars up to an amount not to exceed the U.S. Dollar equivalent of $175.0 million. For further information regarding our Credit Facility, see Note 4 "Long-term Debt and Lease Obligations" of Notes to Consolidated Financial Statements.

In connection with our offering of the Notes earlier this year, we entered into a consent agreement with CMB as administrative agent and lender under the Credit Facility, in April 2013 that permitted us to, among other things, (i) issue the Notes and related guarantees and (ii) invest a cumulative aggregate amount of up to $100 million in OceanGeo from and after February 26, 2013.

Meeting our Liquidity Requirements

We have historically financed our operations from internally generated cash, funds from equity and debt financings, and borrowings under revolving credit facilities. As of December 31, 2013, our total outstanding indebtedness (including capital lease obligations) was approximately $220.2 million, consisting of approximately $175.0 million outstanding senior secured second-lien notes, $35.0 million under our revolving line of credit, $1.5 million relating to our facility lease obligations and $8.7 million of capital leases. As of December 31, 2013, we had $140.0 million undrawn and available on our revolving line of credit under our Credit Facility and had approximately $148.1 million of cash on hand. In January 2014, we drew $15.0 million on our revolver, bringing the availability under our credit facility down to $125.0 million as of February 24, 2014.

For 2013, total capital expenditures, including investments in our multi-client data library, were $131.5 million, and we are projecting capital expenditures for 2014 to be between $100 million to $120 million. Of the total projected 2014 capital expenditures, we are estimating that approximately $90 million to $110 million will be spent on investments in our multi-client data library.

We currently believe that our existing cash, cash generated from operations and our sources of working capital will be sufficient for us to meet our anticipated cash needs for at least the next 12 months. However, as further described in Part I, Item 3. "Legal Proceedings," there are possible scenarios involving a judgment to be rendered in the WesternGeco lawsuit that would adversely affect our liquidity. If we become subject to a significant adverse judgment in the WesternGeco lawsuit and are required to pay the judgment, we might have to utilize a combination of cash on hand, undrawn balances available under our revolving line of credit under our senior debt facility and possibly incur

additional debt and/or equity financing.

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Cash Flow from Operations

Net cash provided by operating activities was $147.6 million for 2013, compared to $169.1 million for 2012. The decrease in our cash flows from operations was due principally to our net loss of $246.5 million for 2013. The negative effects caused by the 2013 net loss to our cash flow from operations were partially offset by non-cash special charges taken during 2013 for write-downs of inventory, certain receivables and certain data library projects, our equity method investment losses in OceanGeo and INOVA Geophysical and the additional accruals for loss contingencies related to the WesternGeco lawsuit. Positively affecting our 2013 net cash flows from operations were lower levels of outstanding unbilled receivables for 2013, partially offset by an investment in inventory and higher accounts receivable at December 31, 2013.

Net cash provided by operating activities was $169.1 million for 2012, compared to $130.0 million of net cash provided by operating activities in 2011. Our increase in sales activity during the fourth quarter of 2011 resulted in an increase in our accounts receivable at that time, which in turn had a positive impact to our cash balances in the first quarter of 2012, as we converted these receivables into cash.

Cash Flow Used In Investing Activities

Net cash flow used in investing activities was $159.0 million for 2013, compared to $144.3 million for 2012. The principal uses of cash in our investing activities during 2013 were $114.6 million of continued investments in our multi-client data library, $16.9 million of investments in property, plant and equipment and investments in and cash advances to OceanGeo totaling $24.8 million.

Net cash flow used in investing activities was $144.3 million for 2012, compared to net cash provided by investing activities of $181.6 million for 2011. The principal uses of cash in our investing activities during 2012 were $143.8 million of continued investments in our multi-client data library, our net investment of $20.0 million of excess cash in short-term bank certificates of deposit, our $11.1 million investment in property, plant and equipment and our $6.5 million investment in a convertible note.

Cash Flow from Financing Activities

Net cash flow provided by financing activities was $98.7 million for 2013, compared to $6.5 million of net cash flow used in financing activities for 2012. The net cash flow provided by financing activities during 2013 was primarily related to our issuance of $175.0 million principal amount of the Notes. We also drew $35.0 of net borrowings under our revolving line of credit during 2013. Offsetting these cash provisions were our total repayments under of our revolving line of credit during 2013 of $97.3 million. In 2013, we also paid $1.4 million in cash dividends on our outstanding Series D Preferred Stock and an additional $5.0 million with respect to the Series D Preferred Stock when it was converted in September 2013. The $6.5 million of net cash flow used in financing activities during 2012 was primarily related to repayment of an outstanding term loan of $98.3 million, offset by net borrowings under our amended revolving line of credit of $97.3 million. We paid $1.4 million in cash dividends on our outstanding Series D Preferred Stock in 2012.

Net cash flow provided by financing activities was $9.8 million for 2011. The net cash flow provided by financing activities during 2011 was primarily related to proceeds from stock option exercises of $13.1 million and an excess tax benefit from stock-based compensation of $3.3 million. This cash inflow was partially offset by payments on our long-term debt of $6.1 million. We paid $1.4 million in cash dividends on our outstanding Series D Preferred Stock in 2011.

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 quarters of both 2012 and 2013 driven by increased capital expenditures from our E&P customers, consistent with our historical seasonality.

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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, 2013 (in thousands):

Contractual Obligations	Total	Less Than 1 Year	1-3 Years	3-5 Years	More Than 5 Years
Long-term debt	$211,501	$ 966	$35,535	$175,000	$ —
Interest on long-term debt obligations	65,298	16,719	29,028	19,551	—
Equipment capital lease obligations	8,651	4,940	3,711	—	—
Operating leases	97,343	9,299	18,559	18,017	51,468
Purchase obligations	17,411	17,411	—	—	—
Total	$400,204	$ 49,335	$86,833	$212,568	$ 51,468

The long-term debt and lease obligations at December 31, 2013 included $175.0 million of principal amount of indebtedness outstanding under our Notes issued in May 2013, $35.0 million of indebtedness outstanding under our revolving line of credit facility and $1.5 million of indebtedness related to our Stafford, Texas facility sale-leaseback arrangement. The $8.7 million of equipment capital lease obligations relates to GXT's financing of computer and other equipment purchases.

The operating lease commitments at December 31, 2013 relate to our leases for certain equipment, offices, processing centers and warehouse space 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 2014.

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.

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; and (iii) navigation, survey and quality control software systems within our Software segment.

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.

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 day-rate basis are recognized as the service is performed.

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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.

Multiple-element Arrangements — When separate elements (such as an acquisition system, other seismic equipment and/or imaging 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’). We adopted this guidance as of January 1, 2010, and applied the guidance to transactions initiated or materially modified on or after January 1, 2010. The guidance does not apply to software sales accounted for under ASC 985-605. We also adopted, in the same period, guidance within ASC 985-605 that excludes from its scope revenue arrangements that include both tangible products and software elements, such that the tangible products contain both software and non-software components that function together to deliver the tangible product’s essential functionality.

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.

We believe this guidance principally impacts our Systems division in which a typical arrangement might involve the sale of various products of our acquisition systems and other seismic equipment. Products under these arrangements are often delivered to the customer within the same period, but in certain situations, depending upon product availability and the customer’s delivery requirements, the products could be delivered to the customer at different times. In these situations, we consider our products to be separate units of accounting provided the delivered product has value to the customer on a standalone basis. We consider a deliverable to have standalone value if the product is sold separately by us or another vendor or could be resold by the customer. Further, our revenue arrangements generally do not include a general right of return relative to the delivered products.

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 2013, 2012 and 2011, we capitalized, as part of our multi-client data library, $2.1 million, $3.8 million and $2.4 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 2013, an increase of 10% in the sales forecasts of all surveys would have decreased our amortization expense by approximately $8.4 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. There were no significant impairment charges during 2013, 2012 and 2011.

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, 2013 was $32.6 million compared to $14.2 million at December 31, 2012.

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, 2013 noting no impairments. Our goodwill as of December 31, 2013 was comprised of $27.0 million in our Marine Systems, $25.9 million in our Software and $2.9 million in our Solutions reporting units.

For goodwill testing purposes, the $193.3 million litigation contingency accrual is assigned to the Marine Systems reporting unit. Based on the increase in this accrual, this reporting unit's carrying value was negative as of December 31, 2013. Based on our evaluation of qualitative factors relevant to the Marine Systems reporting unit, we performed the second step of the impairment test to measure the amount of any potential impairment by comparing the implied fair value of the reporting unit's goodwill with the carrying amount of that goodwill. The excess of the fair value of a reporting unit over the amounts assigned to its assets and liabilities in a hypothetical purchase price allocation is the implied fair value of goodwill. We completed the step two impairment test, which did not indicate an impairment of goodwill associated with the Marine Systems reporting unit.

Our 2013 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 and intellectual property rights. We amortize our intellectual property rights over the estimated periods of benefit (ranging from 4 to 5 years). 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

As of December 31, 2012 we had recorded a valuation allowance for items that relate to capital losses or basis differences that will create capital losses. 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.

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Foreign Sales Risks

For 2013, we recognized $199.0 million of sales to customers in Europe, $52.7 million of sales to customers in Asia Pacific, $54.0 million of sales to customers in Latin American countries, $63.2 million of sales to customers in the Middle East, $16.5 million of sales to customers in Africa and $13.7 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 2013, 2012 and 2011, international sales comprised 73%, 69% and 66%, respectively, of total net revenues. Since 2008, global economic problems and uncertainties have generally increased in scope and nature. 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 may be adversely affected.

Certain Relationships and Related Party Transactions

For 2013, 2012 and 2011, we recorded revenues from BGP for purchases of services and products of $8.0 million, $13.7 million and $34.5 million, respectively. A majority of the revenues from BGP for 2011 related to the sale of a twelve-streamer DigiSTREAMER system. Trade receivables due from BGP were $1.5 million and $1.6 million at December 31, 2013 and 2012, respectively. BGP owned (purchased in March 2010) approximately 14.5% of our outstanding common stock as of December 31, 2013. For 2013, we paid BGP $46.2 million for seismic acquisition services provided on one of the our new venture projects. At December 31, 2013, we owed BGP $1.5 million for unpaid services received on that project.

James M. Lapeyre, Jr. is the Chairman of the Board on our board of directors. He is also the chairman and a significant equity owner of Laitram, L.L.C. (Laitram), and he has served as president of Laitram and its predecessors since 1989. Laitram is a privately-owned, New Orleans-based manufacturer of food processing equipment and modular conveyor belts. Mr. Lapeyre and Laitram together owned approximately 6.3% of our outstanding common stock as of December 31, 2013.

We acquired DigiCourse, Inc., our marine positioning products business, from Laitram in 1998. In connection with that acquisition, we entered into a Continued Services Agreement with Laitram under which Laitram agreed to provide us certain bookkeeping, software, manufacturing and maintenance services. Manufacturing services consist primarily of machining of parts for our marine positioning systems. The term of this agreement expired in September 2001 but we continue to operate under its terms. In addition, from time to time, when we have requested, the legal staff of Laitram has advised us on certain intellectual property matters with regard to our marine positioning systems.

Under an amended lease of commercial property dated February 1, 2006, between Lapeyre Properties, L.L.C. (an affiliate of Laitram) and ION, we have leased certain office and warehouse space from Lapeyre Properties through January 2014, with the right to terminate the lease sooner upon 12 months' notice. During 2013, we paid Laitram and its affiliates a total of approximately $4.2 million, which consisted of approximately $3.5 million for manufacturing services, $0.4 million for rent and other pass-through third party facilities charges and $0.3 million for reimbursement for costs related to providing administrative and other back-office support services in connection with our Louisiana marine operations. For the 2012 and 2011 fiscal years, we paid Laitram and its affiliates a total of approximately $4.1 million and $6.3 million, respectively, for these services. In the opinion of our management, the terms of these services are fair and reasonable and as favorable to us as those that could have been obtained from unrelated third parties at the time of their performance.

In July 2013, we agreed to lend up to $10.0 million to INOVA Geophysical, and received a promissory note issued by INOVA Geophysical payable to us, which was scheduled to mature on September 30, 2013. The loan was made by us to support certain short-term working capital needs of INOVA Geophysical. The indebtedness under the note accrues interest at an annual rate equal to the London Interbank Offered Rate plus 650 basis points. In July 2013, we advanced the full principal amount of $10.0 million to INOVA Geophysical under the promissory note. During the second half of 2013, we received payments totaling $5.0 million from INOVA Geophysical on the loan. The maturity date of the note has been extended to March 31, 2014.

Off-Balance Sheet Arrangements

Variable interest entities. As of December 31, 2013, our investments in OceanGeo and INOVA Geophysical each constitute 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 Note 3 of Notes 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.

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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, 2013, we had outstanding total indebtedness of approximately $220.2 million, including capital lease obligations. Of that indebtedness, approximately $35.0 million accrues interest under rates that fluctuate based upon market rates plus an applicable margin. As of December 31, 2013, the $35.0 million in outstanding revolving loan indebtedness under the Credit Facility accrued interest at a rate of 2.57% per annum. Each 100 basis point increase in the interest rate would have the effect of increasing the annual amount of interest to be paid by approximately $0.4 million.

As our borrowings under the revolving credit facility are subject to variable interest rates, we are subject to interest rate risk to the extent we have outstanding balances under the revolving 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.

Through our subsidiaries, we operate in a wide variety of jurisdictions, including the United Kingdom, China, Canada, the Netherlands, Brazil, 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, 2013 reflected approximately $21.3 million of net working capital related to our foreign subsidiaries, a majority of our 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.

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.

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In connection with the preparation and review of the financial statements to be included in our Quarterly Report on Form 10-Q for the nine months ended September 30, 2013, we determined that we had incorrectly presented the investments in our multi-client seismic data libraries, or SPANs, in our condensed consolidated statements of cash flows for the three months ended March 31, 2013 and the six months ended June 30, 2013. We incorrectly included non-cash activity related to the investment in our multi-client seismic data libraries, which resulted in an understatement of our cash provided by operating activities and an understatement of our cash used in investing activities as previously reported for the interim periods ended March 31, 2013 and June 30, 2013. These investment items should have instead been included and presented as additions to our net cash used in investing activities in our condensed consolidated statement of cash flows for the three months ended March 31, 2013 and the six months ended June 30, 2013. As a result, we have filed Form 10-Q/A amendments to our Quarterly Reports on Form 10-Q for the quarterly periods ended March 31, 2013 and June 30, 2013, reflecting the restatements to our condensed consolidated statements of cash flows contained in those previously filed Form 10-Qs. Our management concluded that a material weakness existed in our internal control over financial reporting with respect to certain procedures and controls related to the preparation and review of our consolidated statements of cash flows as of September 30, 2013.

Our management carried out an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures as of December 31, 2013. 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, 2013.

Remediation of Material Weakness. To address the above referenced material weakness, we have undertaken improvements to our procedures and controls that include the use of automated systems reporting of non-cash accruals related to our investment in multi-client data library and fixed assets and an improved cross-functional management review of the statement of cash flows. Based on these remediation efforts, management concluded that the material weakness in internal control over financial reporting has been remediated as of December 31, 2013.

(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 the 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 the 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, 2013 based upon criteria established in Internal Control — Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in 1992. Based upon their assessment, management concluded that the internal control over financial reporting was effective as of December 31, 2013.

The independent registered public accounting firm that has also audited the Company’s 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. Other than the improvements to our procedures and controls described above, there was not any change in our internal control over financial reporting that occurred

during the three months ended December 31, 2013, 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

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

We have audited ION Geophysical Corporation and subsidiaries' (the Company) internal control over financial reporting as of December 31, 2013, based on criteria established in Internal Control — Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (1992 framework) (the COSO criteria). 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. 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, ION Geophysical Corporation and subsidiaries maintained, in all material respects, effective internal control over financial reporting as of December 31, 2013, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheets of ION Geophysical Corporation and subsidiaries as of December 31, 2013 and 2012 and the related consolidated statements of operations, comprehensive income (loss), cash flows, and stockholders' equity for each of the three years in the period ended December 31, 2013 of ION Geophysical Corporation and subsidiaries and our report dated February 24, 2014 expressed an unqualified opinion thereon.

/s/ Ernst & Young LLP

Houston, Texas

February 24, 2014

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Item 9B. Other Information
Not applicable.

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PART III

Item 10. Directors, Executive Officers and Corporate Governance

The Company's directors and executive officers are as follows:

Name	Age	Title
R. Brian Hanson	49	President and Chief Executive Officer and Director
Christopher T. Usher	53	Executive Vice President and Chief Operating Officer, GeoScience Division
Ken Williamson	49	Executive Vice President and Chief Operating Officer, GeoVentures Division
Steve Bate	51	Executive Vice President and Chief Operating Officer, Systems Division
Gregory J. Heinlein	50	Senior Vice President and Chief Financial Officer
Colin Hulme	61	Senior Vice President, Ocean Bottom Services
David L. Roland	52	Senior Vice President, General Counsel and Corporate Secretary
Scott Schwausch	39	Vice President and Corporate Controller
James M. Lapeyre, Jr.	61	Chairman of the Board and Director
David H. Barr	64	Director
Hao Huimin	50	Director
Michael C. Jennings	48	Director
Franklin Myers	61	Director
S. James Nelson, Jr.	72	Director
John N. Seitz	62	Director

Executive Officers

R. Brian Hanson has been the Company's President and Chief Executive Officer since January 1, 2012 and was elected to the Board of Directors of the Company in 2012. He joined the Company in May 2006 as its Executive Vice President and Chief Financial Officer and was appointed its President and Chief Operating Officer in August 2011. Prior to joining the Company, Mr. Hanson served as the Executive Vice President and Chief Financial Officer of Alliance Imaging, Inc., a NYSE-listed provider of diagnostic imaging services to hospitals and other healthcare providers, from July 2004 until November 2005. From 1998 to 2003, Mr. Hanson held a variety of positions at Fisher Scientific International, Inc., a NYSE-listed manufacturer and supplier of scientific and healthcare products and services, including Vice President Finance of the Healthcare group from 1998 to 2002 and Chief Operating Officer from 2002 to 2003. From 1986 until 1998, Mr. Hanson served in various positions with Culligan Water Conditioning, an international manufacturer of water treatment products and producer and retailer of bottled water products, most recently as Vice President of Finance and Chief Financial Officer. Mr. Hanson received a Bachelor's degree in engineering from the University of New Brunswick and a Master of Business Administration degree from Concordia University in Montreal. Mr. Hanson's day-to-day leadership and involvement with the Company provides him with personal knowledge regarding its operations. In addition, Mr. Hanson's financial experience and skills and technical background enable the Board to better understand and be informed with regard to the Company's operations and prospects and financial condition.

Christopher T. Usher has been the Company's Executive Vice President and Chief Operating Officer, GeoScience Division, since November 2012. Prior to joining the Company, Mr. Usher served as the Senior Vice President, Data Processing, Analysis and Interpretation and Chief Technology Officer of Global Geophysical Services, Inc., a NYSE-listed seismic products and services company, since January 2010. Prior to joining Global, Mr. Usher served from October 2005 to January 2010 as Senior Director at Landmark Software and Services, a division of Halliburton Company, an oilfield services company. From 2004 to 2005, he was Senior Corporate Vice President, Integrated Services, at Paradigm Geotechnology, an exploration and production software company. From 2000 to 2003, Mr. Usher served as President of the global data processing division of Petroleum Geo-Services (PGS), a marine geophysical contracting company. He began his career at Western Geophysical. Mr. Usher holds a Bachelor of Science degree in geology and geophysics from Yale University.

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Ken Williamson joined the Company as Vice President of its GeoVentures business unit in September 2006, became a Senior Vice President in January 2007, and became Executive Vice President and Chief Operating Officer, GeoVentures Division, in November 2012. Between 1987 and 2006, Mr. Williamson was employed by Western Geophysical, which in 2000 became part of WesternGeco, a seismic solutions and technology subsidiary of Schlumberger, Ltd., a global oilfield and information services company. While at WesternGeco, Mr Williamson served as Vice President, Marketing from 2001 to 2003, Vice President, Russia and Caspian Region, from 2003 to 2005 and Vice President, Marketing, Sales & Commercialization of WesternGeco's electromagnetic services and technology division from 2005 to 2006. Mr. Williamson holds a Bachelor of Science degree in geophysics from Cardiff University in Wales.

Steve Bate rejoined the Company in May 2013 as Senior Vice President, Systems Division, and in February 2014 became Executive Vice President and Chief Operating Officer, Systems Division. Mr. Bate originally joined the Company in 2005 as Chief Financial Officer of its GX Technology business unit. In 2007, he was appointed Senior Vice President, Sensor business unit and in 2009 his area of responsibility broadened to the Company's Land Imaging Systems Division. Following the Company's formation in March 2010 of INOVA Geophysical Equipment Limited, a land seismic equipment joint venture with BGP, Mr. Bate was appointed as INOVA's first President and Chief Executive Officer, and served in that role until October 2012. Prior to joining the Company in 2005, Mr. Bate founded a consulting business and served as President of a residential construction company. Mr. Bate holds a Bachelor of Business Administration degree from the University of Houston.

Gregory J. Heinlein has been the Company's Senior Vice President and Chief Financial Officer since November 2011. Prior to joining the Company, Mr. Heinlein served as the Chief Operating and Financial Officer of Genprex, Inc., a clinical-stage biopharmaceutical company. Prior to joining Genprex in 2011, Mr. Heinlein worked as an independent financial consultant and held a variety of senior management positions at Freescale Semiconductor, Inc., a NYSE-listed designer and manufacturer of embedded semiconductors for the automotive, consumer, industrial and networking markets, including Vice President and Treasurer from 2005 to 2008 and Vice President, Global Sales and Marketing, from 2008 to 2010. From 2001 to 2004, Mr. Heinlein served as Vice President and Treasurer of Fisher Scientific International Inc., a NYSE-listed manufacturer and supplier of scientific and healthcare products and services. From 1999 to 2001, he served as Vice President, Treasurer at Great Lakes Chemical Company, a NYSE-listed chemical research, production, sales and distribution company. Mr. Heinlein began his career in 1987 at The Dow Chemical Company, where he worked for more than 12 years in progressively challenging financial management positions, in both the treasury and control functions. Mr. Heinlein received a Bachelor of Business Administration degree from Saginaw Valley State University and a Master of Business Administration degree from Michigan State University.

Colin Hulme joined the Company in April 2012 as Senior Vice President, Strategic Marketing and in November 2013 was promoted to Senior Vice President, Ocean Bottom Services, and appointed to serve as the chief executive officer of OceanGeo B.V., a joint venture controlled by the Company. Prior to joining the Company, Mr. Hulme held a variety of senior management positions at Schlumberger, Ltd., a global oilfield and information services company, from 1989 through 2011, including serving as Technical Director - Deep Reading for Schlumberger Wireline from 2006 to 2011, Vice President and General Manager of Seismic Data Processing for WesternGeco, a seismic solutions and technology subsidiary of Schlumberger, from 2002 to 2006, Vice President and General Manager for Reservoir Products, Schlumberger Information Services, from 2000 to 2002, Vice President and Business Manager for Asia Region, Schlumberger Information Services, from 1998 to 2000, and Corporate Marketing and Commercialization Manager for WesternGeco from 1994 to 1998. Prior to joining Schlumberger, Mr Hulme began his career at Digicon Geophysical.

David L. Roland joined the Company as Vice President, General Counsel and Corporate Secretary in April 2004 and became a Senior Vice President in January 2007. Prior to joining the Company, Mr. Roland held several positions within the legal department of Enron Corp., a multi-national energy trading and infrastructure development business, most recently as Vice President and Assistant General Counsel. Prior to joining Enron in 1998, Mr. Roland was an attorney with Caltex Corporation, an international oil and gas marketing and refining company. Mr. Roland was an attorney with the law firm of Gardere & Wynne (now Gardere Wynne Sewell LLP) from 1988 until 1994, when he

joined Caltex. Mr. Roland holds a Bachelor of Business Administration degree from the University of Houston and a Juris Doctorate degree with Distinction from St. Mary's University.

Scott Schwausch joined the Company in 2006 as Assistant Controller and held that position until June 2010 when he became Director of Financial Reporting. In May 2012, he became Controller, Solutions Business Unit, and in May 2013 became Vice President and Corporate Controller. Mr. Schwausch held a variety of positions at Deloitte & Touche, LLP, a public accounting firm, from 2000 until he joined ION. Mr. Schwausch is a Certified Public Accountant and a Certified Management Accountant. He received a Bachelor of Science degree in accounting from Brigham Young University.

Executive officers serve at the discretion of the Board of Directors, subject to applicable employment agreements.

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Directors

Our Board of Directors consists of eight members. The Board is divided into three classes. Members of each class are elected for three-year terms and until their respective successors are duly elected and qualified, unless the director dies, resigns, retires, is disqualified or is removed. Our stockholders elect the directors in a designated class annually. The current Class I directors are R. Brian Hanson, Hao Huimin and James M. Lapeyre, Jr., and their terms will expire at the election of directors at the 2015 Annual Meeting. The current Class II directors are David H. Barr, Franklin Myers and S. James Nelson, Jr., and their terms will expire at the election of directors at the 2016 Annual Meeting of Stockholders. The current Class III directors are Michael C. Jennings and John N. Seitz, and their current terms are scheduled to expire at the 2014 Annual Meeting of Stockholders.

James M. Lapeyre, Jr., was elected to the Board of Directors of the Company in 1998. Mr. Lapeyre served as Chairman of the Board of Directors from 1999 until January 1, 2012, and again from January 1, 2013 until present. During 2012, Mr. Robert P. Peebler held the role of Executive Chairman and Mr. Lapeyre served as Lead Independent Director. Mr. Lapeyre has been President of Laitram L.L.C., a privately-owned, New Orleans-based manufacturer of food processing equipment and modular conveyor belts, and its predecessors since 1989. Mr. Lapeyre joined the Company's Board of Directors when we bought the DigiCOURSE marine positioning products business from Laitram in 1998. Mr. Lapeyre is Chairman of the Governance Committee and a member of the Audit and Compensation Committees of the Board of Directors. He holds a Bachelor of Art degree in history from the University of Texas and Master of Business Administration and Juris Doctorate degrees from Tulane University. Mr. Lapeyre's status as a significant stockholder of the Company enables the Board to have direct access to the perspective of the Company's stockholders and ensures that the Board will take into consideration the interests of its stockholders in all Board decisions. In addition, Mr. Lapeyre has extensive knowledge regarding the marine products and technology that the Company acquired from Laitram in 1998.

David H. Barr was elected to the Board of Directors of the Company in 2010. From May 2011 until December 2012, Mr. Barr served as the President and Chief Executive Officer of Logan International Inc., a Calgary-based Toronto Stock Exchange (TSX)-listed manufacturer and provider of oilfield tools and services. In 2009, Mr. Barr retired from Baker Hughes Incorporated, an oilfield services and equipment provider, after serving for 36 years in various manufacturing, marketing, engineering and product management functions. At the time of his retirement, Mr. Barr was Group President — Eastern Hemisphere, responsible for all Baker Hughes products and services for Europe, Russia/Caspian, Middle East, Africa and Asia Pacific. From 2007 to 2009, he served as Group President — Completion & Production, and from 2005 to 2007, as Group President — Drilling and Evaluation. Mr. Barr served as President of Baker Atlas, a division of Baker Hughes Inc., from 2000 to 2005, and served as Vice President, Supply Chain Management for the Cameron division of Cameron International Corporation from 1999 to 2000. Prior to 1999, he held positions of increasing responsibility within Baker Hughes Inc. and its affiliates, including Vice President — Business Process Development and various leadership positions with Hughes Tool Company and Hughes Christensen. Mr. Barr initially joined Hughes Tool Company in 1972 after graduating from Texas Tech University with a Bachelor of Science degree in mechanical engineering. Mr. Barr also currently serves on the Board of Directors and Compensation Committee of Logan International Inc., as the Chairman of the Board and on the Compensation Committee of Probe Holdings, Inc. (a designer and manufacturer of oilfield technology and tools) and on the Board of Directors and Compensation and Human Resources and Safety and Social Responsibility Committees of Enerplus Corporation (a NYSE- and TSX-listed independent oil and gas exploration and production company). He formerly served on the Board of Directors and Audit, Remuneration and Governance Committees of Hunting PLC, a London Stock Exchange-listed provider of energy services. Mr. Barr is a member of the Compensation and Governance Committees of the Board of Directors. Mr. Barr's more than 36 years of experience in the oilfield equipment and services industry provides a uniquely valuable industry perspective for the Board. While at Baker Hughes, Mr. Barr obtained experience within a wide range of company functions, from engineering to group President. His breadth of experience enables him to better understand and inform the Board regarding a range of issues and decisions involved in the operation of the Company's business, including development of business strategy.

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Hao Huimin was elected to the Board of Directors of the Company in 2011. Mr. Hao has been employed by China National Petroleum Corporation ("CNPC"), China's largest oil company, and its affiliates in various positions of increasing responsibility since 1984. Since 2006, Mr. Hao has been Chief Geophysicist of BGP Inc., China National Petroleum Corporation ("BGP"). BGP is a subsidiary of CNPC and is the world's largest land seismic contractor. From 2004 to 2006, Mr. Hao was Vice President of BGP, and from 2002 to 2004, he managed the marine department at BGP. Between 1984 and 2002, Mr. Hao served in various management positions at Dagang Geophysical Company, a seismic contractor company owned by CNPC. Mr. Hao is a member of the Finance Committee of the Board of Directors. He holds a Bachelor of Science degree in geophysical exploration from China Petroleum University and Masters of Business Administration degrees from the University of Houston and Nankai University in China. Mr. Hao has over 25 years of experience in geophysical technology research and development, particularly in seismic data processing and seismic data acquisition system research and development management. Mr. Hao's position with BGP and his extensive knowledge of the global seismic industry enables the Board to receive current input and advice reflecting the perspectives of the Company's seismic contractor customers. In addition, the Company's land equipment joint venture with BGP and the ever-increasing importance of China in the global economy and the worldwide oil and gas industry has elevated the Company's commercial involvement with China and Chinese companies. Mr. Hao's insights with regard to issues relating to China provide the Board with a valuable resource. Mr. Hao was appointed to the Board of Directors under the terms of an agreement with BGP in connection with BGP's purchase of 23,789,536 shares of the Company's common stock in March 2010. Under the agreement, BGP is entitled to designate one individual to serve as a member of the Board unless BGP's ownership of the Company's common stock falls below 10%. In January 2011, Mr. Hao replaced Guo Yueliang, BGP's initial appointee to the Board.

Michael C. Jennings was elected to the Board of Directors of the Company in 2010. Mr. Jennings is the President, Chief Executive Officer and Chairman of the Board of Directors of HollyFrontier Corporation, a NYSE-listed independent oil refining and marketing company. Prior to joining HollyFrontier, Mr. Jennings was the President, Chief Executive Officer and Chairman of the Board of Frontier Oil Corporation, an independent oil refining and marketing company. Mr. Jennings joined HollyFrontier in July 2011 when Frontier Oil merged with Holly Corporation to form HollyFrontier. Prior to his appointment to President and Chief Executive Officer of Frontier in January 2009, Mr. Jennings served as Frontier's Executive Vice President and Chief Financial Officer. From 2000 until joining Frontier in 2005, Mr. Jennings was employed by Cameron International Corporation as Vice President and Treasurer. From 1998 until 2000, he was Vice President Finance & Corporate Development of Unimin Corporation, a producer of industrial minerals. From 1995 to 1998, Mr. Jennings was employed by Cameron International Corporation as Director, Acquisitions and Corporate Finance. Mr. Jennings also serves as Chief Executive Officer and on the Board of Directors of Holly Energy Partners, a NYSE-listed master limited partnership partially owned by HollyFrontier Corporation. Mr. Jennings is a member of the Audit and Finance Committees of the Board of Directors. He holds a Bachelor of Arts degree in economics and government from Dartmouth College and a Master of Business Administration degree in finance and accounting from the University of Chicago. Mr. Jennings' experience in the global oil refining, marketing and oilfield services businesses enables him to advise the Board on customer and industry issues and perspectives. Given his extensive experience in executive, financial, treasury and corporate development matters, Mr. Jennings is able to provide the Board with expertise in corporate leadership, financial management, corporate planning and strategic development, thereby supporting the Board's efforts in overseeing and advising on strategic and financial matters.

Franklin Myers was elected to the Board of Directors of the Company in 2001. Mr. Myers has served as a senior advisor of Quantum Energy Partners, a private equity firm for the global energy industry, since February 2013. From 2009 to 2012, he was an Operating Advisor with Paine & Partners, LLC, a private equity firm focused on leveraged buyout transactions. Prior to joining Paine & Partners, Mr. Myers was employed by Cameron International Corporation, an international manufacturer of oil and gas flow control equipment, as Senior Vice President, General Counsel and Corporate Secretary (from 1995 to 1999), President of the Cooper Energy Services Division (from 1998 until 2001), Senior Vice President (from 2001 to 2003), Senior Vice President and Chief Financial Officer (from 2003 to 2008) and Senior Advisor (from 2008 to 2009). Prior to joining Cameron, he was Senior Vice President and General Counsel of Baker Hughes Incorporated, an oilfield services and equipment provider, and an attorney and

partner with the law firm of Fulbright & Jaworski L.L.P. in Houston, Texas. Mr. Myers also currently serves on the Boards of Directors of Comfort Systems USA, Inc. (a NYSE-listed provider of heating, ventilation and air conditioning services), HollyFrontier Corporation (a NYSE-listed independent oil refining and marketing company) and Forum Energy Technology, Inc. (a NYSE-listed oilfield equipment manufacturing company). Mr. Myers is Chairman of the Compensation Committee, co-Chairman of the Finance Committee and a member of the Governance Committee of the Board of Directors. He holds a Bachelor of Science degree in industrial engineering from Mississippi State University and a Juris Doctorate degree with Honors from the University of Mississippi. Mr. Myers' extensive experience as both a financial and legal executive makes him uniquely qualified as a valuable member of the Board and the Chairman of the Compensation Committee. While at Cameron, Baker Hughes and Fulbright & Jaworski, Mr. Myers was responsible for numerous successful finance and acquisition transactions, and his expertise gained through those experiences have proved to be a significant resource for the Board. In addition, Mr. Myers' service on Boards of Directors of other NYSE-listed companies enables Mr. Myers to observe and advise on favorable governance practices pursued by other public companies.

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S. James Nelson, Jr., was elected to the Board of Directors of the Company in 2004. In 2004, Mr. Nelson retired from Cal Dive International, Inc. (now named Helix Energy Solutions Group, Inc.), a marine contractor and operator of offshore oil and gas properties and production facilities, where he was a founding shareholder, Chief Financial Officer (prior to 2000), Vice Chairman (from 2000 to 2004) and a Director (from 1990 to 2004). From 1985 to 1988, Mr. Nelson was the Senior Vice President and Chief Financial Officer of Diversified Energies, Inc., a NYSE-traded company with $1 billion in annual revenues and the former parent company of Cal Dive. From 1980 to 1985, Mr. Nelson served as Chief Financial Officer of Apache Corporation, an oil and gas exploration and production company. From 1966 to 1980, Mr. Nelson was employed with Arthur Andersen & Co. where, from 1976 to 1980, he was a partner serving on the firm's worldwide oil and gas industry team. Mr. Nelson also currently serves on the Board of Directors and Audit Committees of Oil States International, Inc. (a NYSE-listed diversified oilfield services company) and W&T Offshore, Inc. (a NYSE-listed oil and natural gas exploration and production company). From 2010 until October 2012, Mr. Nelson also served on the Board of Directors and Audit and Compensation Committees of the general partner of Genesis Energy LP, an operator of oil and natural gas pipelines and provider of services to refineries and industrial gas users. From 2005 until the company's sale in 2008, he served as a member of the Board of Directors and Audit and Compensation Committees of Quintana Maritime, Ltd., a provider of dry bulk cargo shipping services based in Athens, Greece. Mr. Nelson, who is also a Certified Public Accountant, is Chairman of the Audit Committee and co-Chairman of the Finance Committee of the Board of Directors. He holds a Bachelor of Science degree in accounting from Holy Cross College and a Master of Business Administration degree from Harvard University. Mr. Nelson is an experienced financial leader with the skills necessary to lead the Company's Audit Committee. His service as Chief Financial Officer of Cal Dive International, Inc., Diversified Energies, Inc. and Apache Corporation, as well as his years with Arthur Andersen & Co., make him a valuable asset to the Company, both on the Board of Directors and as the Chairman of the Audit Committee, particularly with regard to financial and accounting matters. In addition, Mr. Nelson's service on audit committees of other companies enables Mr. Nelson to remain current on audit committee best practices and current financial reporting developments within the energy industry.

John N. Seitz was elected to the Board of Directors of the Company in 2003. Mr. Seitz is Chairman and Chief Executive Officer of GulfSlope Energy, Inc., an OTC-listed independent E&P company exploring for oil and gas using advanced seismic imaging. From 2003 until 2006, Mr. Seitz served as co-CEO of Endeavour International Corporation, an exploration and development company with activities in the North Sea and selected North American basins. From 1977 to 2003, Mr. Seitz held positions of increasing responsibility at Anadarko Petroleum Company, serving most recently as a Director and as President and Chief Executive Officer. Mr. Seitz is a Trustee of the American Geological Institute Foundation and serves on the Board of Managers of Constellation Energy Partners LLC, a company focused on the acquisition, development and exploitation of oil and natural gas properties and related midstream assets. He also currently serves on the Board of Directors of Gulf United Energy, Inc., an OTC-listed independent energy company. Mr. Seitz is a member of the Compensation and Governance Committees of our Board of Directors. Mr. Seitz holds a Bachelor of Science degree in geology from the University of Pittsburgh, a Master of Science degree in geology from Rensselaer Polytechnic Institute and is a Certified Professional Geoscientist in Texas. He also completed the Advanced Management Program at the Wharton School of Business. Mr. Seitz' extensive experience as a leader of global exploration and production companies such as Endeavour and Anadarko has proven to be an important resource for our Board when considering industry and customer issues. In addition, Mr. Seitz' geology background and expertise assists the Board in better understanding industry trends and issues.

None of the Company's directors or executive officers has any family relationship with any other director or executive officer of the Company.

Section 16(a) Beneficial Ownership Reporting Compliance

Section 16(a) of the Exchange Act requires directors and certain officers of the Company, and persons who own more than 10% of the Company's common stock, to file with the SEC and the NYSE initial statements of beneficial ownership on Form 3 and changes in such ownership on Forms 4 and 5. Based on its review of the copies of such reports, the Company believes that during 2013 the Company's directors, executive officers and stockholders holding greater than 10% of its outstanding shares complied with all applicable filing requirements under Section 16(a) of the

Exchange Act, and that all of their filings were timely made.
Corporate Governance Matters

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Code of Ethics. The Company has adopted a Code of Ethics that applies to all members of its Board of Directors and all of its employees, including its principal executive officer, principal financial officer, principal accounting officer and all other senior members of its finance and accounting departments. The Company requires all employees to adhere to its Code of Ethics in addressing legal and ethical issues encountered in conducting their work. The Code of Ethics requires that the Company's employees avoid conflicts of interest, comply with all laws and other legal requirements, conduct business in an honest and ethical manner, promote full and accurate financial reporting and otherwise act with integrity and in the Company's best interest. Every year the Company's management employees and senior finance and accounting employees affirm their compliance with the Code of Ethics and other principal compliance policies. New employees sign a written certification of compliance with these policies upon commencing employment.

The Company has made its Code of Ethics, corporate governance guidelines, charters for the principal standing committees of the Board and other information that may be of interest to investors available on the Investor Relations section of the Company's website at http://ir.iongeo.com/phoenix.zhtml?c=101545&p=irol-govhighlights. Copies of this information may also be obtained by writing to the Company at ION Geophysical Corporation, Attention: Senior Vice President, General Counsel and Corporate Secretary, 2105 CityWest Boulevard, Suite 400, Houston, Texas 77042-2839. Amendments to, or waivers from, the Code of Ethics will also be available on the Company's website and reported as may be required under SEC rules; however, any technical, administrative or other non-substantive amendments to the Code of Ethics may not be posted.

The preceding Internet address and all other Internet addresses referenced in this Annual Report on Form 10-K are for information purposes only and are not intended to be a hyperlink. Accordingly, no information found or provided at such Internet addresses or at the Company's website in general is intended or deemed to be incorporated by reference herein.

Submission of Director Nominees by Security Holders. The Company's Bylaws permit stockholders to nominate individuals for director for consideration at an annual stockholders' meeting. A proper director nomination may be considered at the Company's 2015 Annual Meeting only if the proposal for nomination is received by the Company not later than December 16, 2014. All nominations should be directed to David L. Roland, Senior Vice President, General Counsel and Corporate Secretary, ION Geophysical Corporation, 2105 CityWest Boulevard, Suite 400, Houston, Texas 77042-2839.

The Company's Governance Committee will consider properly submitted recommendations for director nominations made by a stockholder or other sources (including self-nominees) on the same basis as other candidates. For consideration by the Governance Committee, a recommendation of a candidate must be submitted timely and in writing to the Governance Committee in care of the Company's Corporate Secretary at the Company's principal executive offices. The submission must include sufficient details regarding the qualifications of the potential candidate. In general, nominees for election should possess (1) the highest level of integrity and ethical character, (2) strong personal and professional reputation, (3) sound judgment, (4) financial literacy, (5) independence, (6) significant experience and proven superior performance in professional endeavors, (7) an appreciation for board and team performance, (8) the commitment to devote the time necessary, (9) skills in areas that will benefit the Board and (10) the ability to make a long-term commitment to serve on the Board.

Board Committees. The Board of Directors has established four standing committees to facilitate and assist the Board in the execution of its responsibilities. The four standing committees are the Audit Committee, the Compensation Committee, the Governance Committee and the Finance Committee. Each standing committee operates under a written charter, which sets forth the functions and responsibilities of the committee. A copy of the charter for each of the Audit Committee, the Compensation Committee and the Governance Committee can be viewed on the Company's website at http://ir.iongeo.com/phoenix.zhtml?c=101545&p=irol-govhighlights. A copy of each charter can also be obtained by writing to the Company at ION Geophysical Corporation, Attention: Corporate Secretary, 2105 CityWest Boulevard, Suite 400, Houston, Texas 77042-2839. The Audit Committee, Compensation Committee, Governance Committee and Finance Committee are composed entirely of non-employee directors. In addition, the Board establishes temporary special committees from time to time on an as-needed basis.

Audit Committee and Audit Committee Financial Expert. The Company's Audit Committee is a separately-designated standing audit committee as defined in Section 3(a)(58)(A) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). The Audit Committee oversees matters relating to financial reporting, internal controls, risk management and compliance. These responsibilities include appointing, overseeing, evaluating and approving the fees of the Company's independent auditors, reviewing financial information that is provided to the Company's stockholders and others, reviewing with management the Company's system of internal controls and financial reporting process, and monitoring the Company's compliance program and system.

The Audit Committee consists of Messrs. Nelson, Jennings and Lapeyre. The Board of Directors has determined that each member of the Audit Committee is financially literate and satisfies the definition of "independent" as established under the NYSE corporate governance listing standards and Rule 10A-3 under the Exchange Act. In addition, the Board of Directors has determined that Mr. Nelson, the Chairman of the Audit Committee, is qualified as an audit committee financial expert within the meaning of SEC regulations, and that he has accounting and related financial management expertise within the meaning of the listing standards of the NYSE and Rule 10A-3.

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Item 11. Executive Compensation

Director Compensation

Company employees who are also directors do not receive any fee or remuneration for services as members of the Company's Board of Directors. The Company currently has seven non-employee directors who qualify for compensation as directors. In addition to being reimbursed for all reasonable out-of-pocket expenses that the director incurs attending Board meetings and functions, the Company's outside directors receive an annual retainer fee of $46,000. In addition, the Chairman of the Board receives an annual retainer fee of $25,000, the Chairman of the Audit Committee receives an annual retainer fee of $20,000, the Chairman of the Compensation Committee receives an annual retainer fee of $15,000, the Chairman of the Governance Committee receives an annual retainer fee of $10,000 and each co-Chairman of the Finance Committee receives an annual retainer fee of $5,000. The Company's non-employee directors also receive, in cash, $2,000 for each Board meeting attended and $2,000 for each committee meeting attended (unless the committee meeting is held in conjunction with a Board meeting, in which case the fee for committee meeting attendance is $1,000) and $1,000 for each Board or committee meeting attended via teleconference.

Each non-employee director also receives an initial grant of 8,000 vested shares of the Company's common stock on the first quarterly grant date after joining the Board and follow-on grants each year of a number of shares of common stock equal in market value to $110,000, up to an annual grant of 25,000 shares per director.

The following table summarizes the compensation earned by the Company's non-employee directors in 2013:

Name(1)	Fees Earned or Paid in Cash ($)	Stock Awards ($)(2)	Non-Equity Incentive Plan Compensation ($)	Change in Pension Value and Nonqualified Deferred Compensation Earnings ($)	All Other Compensation ($)	Total ($)
David H. Barr	69,000	89,500	—	—	—	158,500
Hao Huimin	55,000	89,500	—	—	—	144,500
Michael C. Jennings	66,000	89,500	—	—	—	155,500
James M. Lapeyre, Jr.	109,000	89,500	—	—	—	198,500
Franklin Myers	89,000	89,500	—	—	—	178,500
S. James Nelson, Jr.	96,000	89,500	—	—	—	185,500
John N. Seitz	69,000	89,500	—	—	—	158,500

(1) R. Brian Hanson, the Company's President and Chief Executive Officer, is not included in this table because he was an employee of the Company during 2013, and therefore received no compensation for his services as director. The compensation received by Mr. Hanson as an employee of the Company during 2013 is shown in the Summary Compensation Table contained in "— Executive Compensation" below.

(2) All of the amounts shown represent the value of common stock granted under the Company's 2004 Long-Term Incentive Plan ("2004 LTIP"). On December 1, 2013, each of the Company's non-employee directors was granted an award of 25,000 shares of the Company's common stock. The values contained in the table are based on the grant-date fair value of awards of stock during the fiscal year.

As of December 31, 2013, the Company's non-employee directors held the following unvested and unexercised Company equity awards:

Name	Unvested Stock Awards (#)	Unexercised Option Awards (#)
David H. Barr	—	—
Hao Huimin	—	—
Michael C. Jennings	—	—
James M. Lapeyre, Jr.	—	50,000

Franklin Myers	—	25,000
S. James Nelson, Jr.	—	70,000
John N. Seitz	—	50,000

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Compensation Discussion and Analysis

This Compensation Discussion and Analysis provides an overview of the Compensation Committee of the Board of Directors, a discussion of the background and objectives of the Company's compensation programs for its senior executives, and a discussion of all material elements of the compensation of each of the executive officers identified in the following table, whom the Company refers to as its named executive officers:

Name	Title
R. Brian Hanson	President and Chief Executive Officer (principal executive officer and former principal financial officer)
Christopher T. Usher	Executive Vice President and Chief Operating Officer, GeoScience Division
Ken Williamson	Executive Vice President and Chief Operating Officer, GeoVentures Division
Gregory J. Heinlein	Senior Vice President and Chief Financial Officer (principal financial officer)
Colin Hulme	Senior Vice President, Ocean Bottom Services

Executive Summary

General. The objectives and major components of the Company's executive compensation program did not materially change from 2013 to 2014. While the Company regularly reviews and fine-tunes its compensation programs, the Company believes consistency in its compensation program and philosophy is important to effectively motivate and reward top-level management performance and for the creation of stockholder value. The Company continues to provide its named executive officers with total annual compensation that includes three principal elements: base salary, performance-based annual incentive cash compensation and long-term equity-based incentive awards. Elements of the compensation program continue to be performance-based, and a significant portion of each executive's total annual compensation is at risk and dependent upon the Company's achievement of specific, measurable performance goals. The Company's performance-based pay is designed to align its executive officers' interests with those of its stockholders and to promote the creation of stockholder value, without encouraging excessive risk-taking. In addition, the Company's equity programs, combined with its executive share ownership requirements, are designed to reward long-term stock performance.

Base salaries for several of the Company's named executive officers were increased in January 2014, consistent with the Company's usual base salary review process and practice. Payments under the Company's annual bonus incentive plan for 2013 reflected the Company's performance and the level of achievement of its 2013 plan performance goals. As discussed further in this Annual Report on Form 10-K under the heading "2013 Bonus Incentive Plan," the Company's 2013 adjusted operating income exceeded the Company's threshold consolidated financial performance criteria under its 2013 bonus incentive plan but did not meet the target criteria under the plan. As a result, many of the eligible named executive officers and other eligible executives and employees received a cash bonus award under the 2013 plan that was lower in amount than the cash bonus they received for 2012, when the Company's financial performance exceeded the applicable target financial performance criteria.

The annual grants made to named executive officers under the Company's long-term stock incentive plan on December 1, 2013 were generally consistent with grants made to named executive officers in previous years.

Principal Changes in Compensation during 2013. At the Company's 2013 Annual Meeting of Stockholders held on May 22, 2013, the stockholders approved all of the director nominees and proposals, including a non-binding advisory ("say-on-pay") vote to approve the compensation of executive officers. In the advisory executive compensation vote, over 98% of the votes cast on the proposal voted in favor of the Company's compensation practices and policies. The Company's general goal since its 2013 Annual Meeting has been to continue to act consistently with the established practices that were overwhelmingly approved by its stockholders. The Company believes that it has accomplished that goal. In addition, because the Company's stockholders voted in a non-binding advisory vote held at the 2011 Annual Meeting in favor of the Company holding an advisory ("say-on-frequency") vote on executive compensation every year, the Company will continue to hold an annual advisory vote to approve the compensation of its named executive

officers. When and if the Board determines that it is in the best interest of the Company to hold its say-on-pay vote with a different frequency, the Company will propose such a change to its stockholders at the next annual meeting of stockholders to be held following the Board's determination. Presently, under SEC rules, the Company is not required to hold another say-on-frequency vote again until its 2017 Annual Meeting of Stockholders.

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Introduction/Corporate Governance

Compensation Committee

The Compensation Committee of the Board of Directors reviews and approves, or recommends to the Board for approval, all salary and other remuneration for the Company's executive officers and oversees matters relating to the Company's employee compensation and benefit programs. No member of the committee is an employee of the Company. The Board has determined that each member of the committee satisfies the definition of "independent" as established in the NYSE corporate governance listing standards. In determining the independence of each member of the committee, the Board considered all factors specifically relevant to determining whether the director has a relationship to the Company that is material to the director's ability to be independent from management in the execution of his duties as a compensation committee member, including, but not limited to:

- the source of compensation of the director, including any consulting, advisory or other compensatory fee paid by the Company to the director; and
- whether the director is affiliated with the Company, a subsidiary or affiliate.

When considering the director's affiliation with the Company for purposes of independence, the Board considered whether the affiliate relationship places the director under the direct or indirect control of the Company or its senior management, or creates a direct relationship between the director and members of senior management, in each case, of a nature that would impair the director's ability to make independent judgments about the Company's executive compensation.

The committee operates pursuant to a written charter that sets forth its functions and responsibilities. A copy of the charter can be viewed on the Company's website at http://ir.iongeo.com/phoenix.zhtml?c=101545&p=irol-govhighlights.

Compensation Consultants

The Compensation Committee has the authority and necessary funding to engage, terminate and pay compensation consultants, independent legal counsel and other advisors in its discretion. Prior to retaining any such compensation consultant or other advisor, the committee evaluates the independence of such advisor and also evaluates whether such advisor has a conflict of interest. During 2011, the committee engaged Performensation Consulting, an equity compensation consulting firm, to provide advisory services with regard to the preparation of the Company's 2011 proxy statement and to provide the committee with analysis on the number of shares to propose to stockholders to add to the Company's stock plan at its 2011 Annual Meeting for future grants to employees and directors. During 2011, the committee also engaged Aon Hewitt as its consultant in connection with the promotion of Mr. Hanson to Chief Executive Officer. During 2012 and 2013, at the recommendation of the Company's management, the committee approved and engaged Performensation Consulting to provide advisory services with regard to the preparation of the Company's 2012 and 2013 proxy statements, respectively.

From 2011 to date, neither of Performensation Consulting nor Aon Hewitt received compensation, or advised the Company or its executive officers, on matters outside the scope of their respective engagements by the Compensation Committee.

The Compensation Committee has considered the independence of Performensation Consulting in light of SEC rules and NYSE listing standards. Among the factors considered by the committee were the following:

- other services provided to the Company by Performensation Consulting;
- the amount of fees paid by the Company as a percentage of Performensation Consulting's total revenues;
- policies or procedures maintained by Performensation Consulting that are designed to prevent a conflict of interest;
- any business or personal relationships between the individual consultants involved in the engagement and any member of the committee;
- any of the Company's common stock owned by the individual consultants involved in the engagement; and
- any business or personal relationships between the Company's executive officers and Performensation Consulting or the individual consultants involved in the engagement.

The committee discussed these considerations and concluded that the work of Performensation Consulting did not raise any conflict of interest.

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Role of Management in Establishing and Awarding Compensation

On an annual basis, the Company's Chief Executive Officer, with the assistance of its Human Resources department, recommends to the Compensation Committee any proposed increases in base salary, bonus payments and equity awards for executive officers other than himself. No executive officer is involved in determining his own salary increase, bonus payment or equity award. When making officer compensation recommendations, the Chief Executive Officer takes into consideration compensation benchmarks, which include industry standards for similar sized organizations serving similar markets, as well as comparable positions, the level of inherent importance and risk associated with the position and function, and the executive's job performance over the previous year. See "— Objectives of Executive Compensation Programs — Benchmarking" and "— Elements of Compensation — Base Salary" below.

The Chief Executive Officer, with the assistance of the Human Resources department and input from the Company's executive officers and other members of senior management, also formulates and proposes to the Compensation Committee an employee bonus incentive plan for the ensuing year. For a description of the process for formulating the employee bonus incentive plan and the factors that are considered, see "— Elements of Compensation — Bonus Incentive Plan" below.

The committee reviews and approves all compensation and awards to executive officers and all bonus incentive plans. With respect to equity compensation awarded to employees other than executive officers, the Compensation Committee reviews and approves all grants of restricted stock and stock options above 5,000 shares, generally based upon the recommendation of the Chief Executive Officer, and has delegated option and restricted stock granting authority to the Chief Executive Officer as permitted under Delaware law for grants to non-executive officers of up to 5,000 shares.

On its own initiative, at least once a year, the Compensation Committee reviews the performance and compensation of the Chief Executive Officer and, following discussions with the Chief Executive Officer and other members of the Board of Directors, establishes his compensation level. Where it deems appropriate, the Compensation Committee will also consider market compensation information from independent sources. See "— Objectives of Executive Compensation Programs — Benchmarking" below.

Certain members of the Company's senior management generally attend most meetings of the Compensation Committee, including the Chief Executive Officer, the Senior Vice President — Global Human Resources, and the General Counsel/Corporate Secretary. However, no member of management votes on items being considered by the Compensation Committee. The Compensation Committee and Board of Directors do solicit the views of the Chief Executive Officer on compensation matters, particularly as they relate to the compensation of the other named executive officers and the other members of senior management reporting to the Chief Executive Officer. The committee often conducts an executive session during each meeting, during which members of management are not present.

Objectives of Executive Compensation Programs

General Compensation Philosophy and Policy

Through the Company's compensation programs, the Company seeks to achieve the following general goals:

- attract and retain qualified and productive executive officers and key employees by providing total compensation competitive with that of other executives and key employees employed by companies of similar size, complexity and industry of business;
- encourage executives and key employees to achieve strong financial and operational performance;
- structure compensation to create meaningful links between corporate performance, individual performance and financial rewards;
- align the interests of executives with those of stockholders by providing a significant portion of total pay in the form of stock-based incentives;
- encourage long-term commitment to the Company; and
- limit corporate perquisites to seek to avoid perceptions both within and outside of the Company of "soft" compensation.

The Company's governing principles in establishing executive compensation have been:

Long-Term and At-Risk Focus. Compensation opportunities should be composed of long-term, at-risk pay to focus management on the long-term interests of the Company. Base salary, annual incentives and employee benefits should

be close to competitive levels when compared to similarly-situated companies.

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Equity Orientation. Equity-based plans should comprise a major part of the at-risk portion of total compensation to instill ownership thinking and to link compensation to corporate performance and stockholder interests.
Competitive. The Company emphasizes total compensation opportunities consistent on average with its peer group of companies. Competitiveness of annual base pay and annual incentives is independent of stock performance. However, overall competitiveness of total compensation is generally contingent on long-term, stock-based compensation programs.
Focus on Total Compensation. In making decisions with respect to any element of an executive officer's compensation, the Compensation Committee considers the total compensation that may be awarded to the executive officer, including salary, annual bonus and long-term incentive compensation. These total compensation reports are prepared by the Human Resources department and present the dollar amount of each component of the named executive officers' compensation, including current cash compensation (base salary, past bonus and eligibility for future bonus), equity awards and other compensation. The overall purpose of these total compensation reports is to bring together, in one place, all of the elements of actual and potential compensation of named executive officers so that the Compensation Committee may analyze both the individual elements of compensation (including the compensation mix) as well as the aggregate total amount of actual and projected compensation. In its most recent review of total compensation reports, the committee determined that annual compensation amounts for the Company's Chief Executive Officer and its other named executive officers remained generally consistent with the committee's expectations. However, the committee reserves the right to make changes that it believes are warranted.
Internal Pay Equity. The Company's core compensation philosophy is to pay its executive officers competitive levels of compensation that best reflect their individual responsibilities and contributions to the Company, while providing incentives to achieve business and financial objectives. While comparisons to compensation levels at other companies (discussed below) are helpful in assessing the overall competitiveness of the compensation program, the Company believes that its executive compensation program also must be internally consistent and equitable in order for the Company to achieve its corporate objectives. Each year the Human Resources department reports to the Compensation Committee the total compensation paid to the Chief Executive Officer and all other senior executives, which includes a comparison for internal pay equity purposes. Over time, there have been variations in the comparative levels of compensation of executive officers and changes in the overall composition of the management team and the overall accountabilities of the individual executive officers; however, the Company and the committee are satisfied that total compensation received by executive officers reflects an appropriate differential for executive compensation.
These principles apply to compensation policies for all executive officers and key employees. The Company does not follow the principles in a mechanistic fashion; rather, it applies experience and judgment in determining the appropriate mix of compensation for each individual. This judgment also involves periodic review of discernible measures to determine the progress each individual is making toward agreed-upon goals and objectives.
Benchmarking
When making compensation decisions, the Company also looks at the compensation of the Chief Executive Officer and other executive officers relative to the compensation paid to similarly-situated executives at companies that the Company considers to be its industry and market peers — a practice often referred to as "benchmarking." The Company believes, however, that a benchmark should be just that — a point of reference for measurement — but not the determinative factor for executive compensation. The purpose of the comparison is not to supplant the analyses of internal pay equity, total wealth accumulation and the individual performance of the executive officers that is considered when making compensation decisions. Because the comparative compensation information is just one of the several analytic tools that are used in setting executive compensation, the Compensation Committee has discretion in determining the nature and extent of its use. Further, given the limitations associated with comparative pay information for setting individual executive compensation, including the difficulty of assessing and comparing wealth accumulation through equity gains, the committee may elect to not use the comparative compensation information at all in the course of making compensation decisions.
In most years, at least once each year, the Human Resources department, under the oversight of the Compensation Committee, reviews data from market surveys, independent consultants and other sources to assess the Company's

competitive position with respect to base salary, annual incentives and long-term incentive compensation. When reviewing compensation data in November 2013, the Company utilized data primarily from Radford salary surveys, the Mercer U.S. Compensation Planning Survey, TowersWatson executive salary surveys and Frost's 2013 Oilfield Manufacturing and Services Industry Executive Compensation Survey (“OFMS Survey”). The survey information from most of these resources covered a broad range of industries and companies. However, the 2013 OFMS Survey compiled proxy compensation data from 54 oilfield services companies and survey results from the following 20 oilfield services companies:

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Aker Solutions ASA	ION Geophysical Corporation
Baker Hughes, Inc.	National Oilwell Varco, Inc.
Bristow Group, Inc.	Newpark Resources, Inc.
Calfrac Well Services Ltd.	Oil States International, Inc.
Core Laboratories NV	Shelf Drilling Offshore Holdings Ltd.
Ensco PLC	Superior Energy Services, Inc.
Enventure Global Technologies	T.D. Williamson Inc.
Exterran Holdings, Inc.	TETRA Technologies, Inc.
Helmerich & Payne, Inc.	Vantage Drilling Company
Hercules Offshore Services, Inc.	Weir Specialty Products Manufacturing

Each year, the administrators of the OFMS Survey in their discretion make adjustments to the list of companies included in the survey. As a result, the above list of companies included in the 2013 OFMS Survey is slightly different from the list of companies included in the OFMS Survey for 2012 and previous years and will likely be different from the list of companies to be included in future OFMS Surveys.

The overall results of the compensation surveys provide the starting point for the Company's compensation analysis. The Company believes that the surveys contain relevant compensation information from companies that are representative of the sector in which it operates, have relative size as measured by market capitalization and experience relative complexity in the business and the executives' roles and responsibilities. Beyond the survey numbers, the Company looks extensively at a number of other factors, including its estimates of the compensation at the most comparable competitors and other companies that were closest to the Company in size, profitability and complexity. The Company also considers an individual's current performance, the level of corporate responsibility, and the employee's skills and experience, collectively, in making compensation decisions.

In the case of the Chief Executive Officer and some of the other executive officers, the Company also considers its performance during the person's tenure and the anticipated level of compensation that would be required to replace the person with someone of comparable experience and skill.

In addition to its periodic review of compensation, the Company also regularly monitors market conditions and will adjust compensation levels from time to time as necessary to remain competitive and retain its most valuable employees. When the Company experiences a significant level of competition for retaining current employees or hiring new employees, the Company will typically reevaluate its compensation levels within that employee group in order to ensure competitiveness.

Elements of Compensation

The primary components of the Company's executive compensation program are base salary, bonus incentive plan, employee benefits and long-term compensation, including stock options and restricted stock/units. Below is a summary of each component:

Base Salary

General. The general purpose of base salary for executive officers is to create a base of cash compensation for the officer that is consistent on average with the range of base salaries for executives in similar positions and with similar responsibilities at comparable companies. In addition to salary norms for persons in comparable positions at comparable companies, base salary amounts may also reflect the nature and scope of responsibility of the position, the expertise of the individual employee and the competitiveness of the market for the employee's services. Base salaries of executives other than the Chief Executive Officer may also reflect the Chief Executive Officer's evaluation of the individual executive officer's job performance. As a result, the base salary level for each individual may be above or below the target market value for the position. The Compensation Committee also recognizes that the Chief Executive Officer's compensation should reflect the greater policy- and decision-making authority that he holds and the higher level of responsibility he has with respect to strategic direction and financial and operating results. At December 31, 2013, the Company's Chief Executive Officer's annual base salary was 37% higher than the annual base salary for the next highest-paid named executive officer and 47% higher than the average annual base salary for all other named executive officers. The committee does not intend for base salaries to be the vehicle for long-term capital and value accumulation for executives.

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2013 Actions. In typical years, base salaries are reviewed at least annually and may also be adjusted from time to time to realign salaries with market levels after taking into account individual responsibilities and changes in responsibilities, performance and contribution to the Company, experience, impact on total compensation, relationship of compensation to other Company officers and employees, and changes in external market levels. Salary increases for executive officers do not follow a preset schedule or formula but do take into account changes in the market and individual circumstances.

All of the named executive officers received an increase in base salary in January 2014, as described below:

Named Executive Officer	Action
R. Brian Hanson	In recognition of Mr. Hanson’s performance during 2013, the Compensation Committee increased Mr. Hanson's base salary from $490,000 to $550,000, effective in January 2014. The 2013 OFMS Survey indicated that the weighted average 50th percentile for CEO base salary for surveyed companies having annual revenues of less than $1 billion was $601,500.
Christopher T. Usher	In recognition of Mr. Usher’s performance during his first full year as the new leader of the GeoSciences Division, the Compensation Committee increased Mr. Usher's annual base salary from $350,000 to $364,000, effective in January 2014. Compensation surveys from Radford and the 2013 OFMS Survey indicate that the weighted average 50th percentile for base salary of the leader of a business unit for surveyed companies having annual business unit revenues of less than $500 million is $300,400.
Ken Williamson	Compensation surveys from Radford and the 2013 OFMS Survey indicate that the weighted average 50th percentile for base salary of the leader of a business unit for surveyed companies having annual business unit revenues of less than $500 million is $300,400. In recognition of Mr. Williamson's expertise, capabilities and performance as the leader of the GeoVentures Division, which contributed significantly to the Company’s overall financial results during 2013, the Compensation Committee increased Mr. Williamson’s annual base salary from $358,000 to $372,320, effective in January 2014.
Gregory J. Heinlein	Compensation surveys from Radford, TowersWatson and the 2013 OFMS Survey indicate that the weighted average 50th percentile for Chief Financial Officer base salary for surveyed companies having annual revenues of less than $1 billion is $324,576. In recognition of Mr. Heinlein’s job performance and experience and expertise in managing the finance and accounting departments during 2013, the Compensation Committee increased Mr. Heinlein’s annual base salary from $312,000 to $330,000, effective in January 2014.
Colin Hulme	In recognition of Mr. Hulme’s promotion in November 2013 to Senior Vice President, Ocean Bottom Services, and his appointment to serve as the chief executive officer of OceanGeo B.V., a joint venture company controlled by the Company, the Compensation Committee increased Mr. Hulme’s annual base salary from $312,000 to $330,000, effective in January 2014. Compensation surveys from Radford and the 2013 OFMS Survey indicate that the weighted average 50th percentile for base salary of the leader of a business unit for surveyed companies having annual business unit revenues of less than

$500 million is $300,400.

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Bonus Incentive Plan

The Company's employee annual bonus incentive plan is intended to promote the achievement each year of company performance objectives and performance objectives of the employee's particular business unit, and to recognize those employees who contributed to the company's achievements. The plan provides cash compensation that is at-risk on an annual basis and is contingent on achievement of annual business and operating objectives and individual performance. The plan provides all participating employees the opportunity to share in the company's performance through the achievement of established financial and individual objectives. The financial and individual objectives within the plan are intended to measure an increase in the value of the Company and, in turn, its stock.

In recent years, the Company has adopted a bonus incentive plan with regard to each year. Performance under the annual bonus incentive plan is measured with respect to the designated plan fiscal year. Payments under the plan are paid in cash in an amount reviewed and approved by the Compensation Committee and are ordinarily made in the first quarter following the completion of a fiscal year, after the financial results for that year have been determined.

The annual bonus incentive plan is usually consistent with the Company's operating plan for the same year. In late 2012, the Company prepared a consolidated company operating budget for 2013 and individual operating budgets for each operating unit. The budgets took into consideration the Company's views on market opportunities, customer and sale opportunities, technology enhancements for new products, product manufacturing and delivery schedules and other operating factors known or foreseeable at the time. The Board of Directors analyzed the proposed budgets with management extensively and, after analysis and consideration, the Board approved the consolidated 2013 operating plan. During late 2012 and early 2013, the Chief Executive Officer worked with the Human Resources department and members of senior management to formulate the 2013 bonus incentive plan, consistent with the 2013 operating plans approved by the Board.

At the beginning of 2013, the Compensation Committee approved the 2013 bonus incentive plan for executives and certain designated non-executive employees. The computation of awards generated under the plan is required to be approved by the committee. In February 2014, the committee reviewed the Company's actual performance against each of the plan performance goals established at the beginning of 2013 and evaluated the individual performance during the year of each participating named executive officer. The results of operations of the Company for 2013 and individual performance evaluations determined the appropriate payouts under the annual bonus incentive plan.

The Compensation Committee has discretion in circumstances it determines are appropriate to authorize discretionary bonus awards that might exceed amounts that would otherwise be payable under the terms of the bonus incentive plan. These discretionary awards can be payable in cash, stock options, restricted stock, restricted stock units or a combination thereof. Any stock options, restricted stock or restricted stock units awarded would be granted under one of the Company's existing long-term equity compensation plans. The committee also has the discretion, in appropriate circumstances, to grant a lesser bonus award, or no bonus award at all, under the bonus incentive plan.

As described above, bonus incentive plans are designed for payouts that generally track the financial performance of the Company. The general intent of the plans is to reward key employees when the Company and the employee perform well and not reward them when the Company and the employee do not perform well. In most years when Company financial performance is strong, cash bonus payments are generally higher. Likewise, when financial performance is low as compared to internal targets and plans, cash bonus payments are generally lower. There are occasionally exceptions to this general trend. For example, in 2008 the Company achieved an improved financial performance over the previous year, but average cash bonus awards under its 2008 annual bonus incentive plan were relatively lower because the Company did not achieve its internal financial and growth objectives for 2008. Likewise, in 2011 the Company grew adjusted operating income by 32% over 2010, but average cash bonus awards under its 2011 annual bonus incentive plan were lower than in 2010 because the Company did not achieve its internal financial objectives for 2011. In 2012, adjusted operating income grew 40% over 2011 but average bonus award paid to named executive officers remained at approximately the same level as 2011 because the Company's internal financial objectives for 2012 were higher than in 2011. This history demonstrates a clear and consistent link between executive officer bonus incentive compensation and the Company's performance.

Below are general descriptions of the Company's 2013 bonus incentive plan and Company performance criteria applicable to the plan:

2013 Bonus Incentive Plan

The purpose of the 2013 bonus incentive plan was to provide an incentive for participating employees to achieve their highest level of individual and business unit performance and to align the employees to accomplish and share in the achievement of the Company’s 2013 strategic and financial goals.

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Designated employees, including named executive officers, were eligible to participate in the 2013 bonus incentive plan. Under the 2013 plan, approximately 25% of the funds allocated for distribution were available for awards to eligible employees regardless of the Company's 2013 financial performance, and approximately 75% of the funds allocated for distribution were available for distribution to eligible employees only to the extent the Company satisfied the designated 2013 financial performance criteria. In addition, the 2013 plan was structured so that the total amount of funds available for distribution increased as the Company's financial performance increased. As a result, the amount of total dollars available for distribution under the bonus incentive plan was largely dependent on the Company's achievement of financial objectives.

As reported in the chart below, the 2013 bonus incentive plan established a 2013 target consolidated operating income performance goal. Consolidated operating income was selected as the most appropriate performance goal for the 2013 plan because the committee believed that operating income was the best indicator of the Company's overall business trends and performance at that time and evidenced a direct correlation with the interests of stockholders and Company performance. When determining whether financial targets have been achieved under the 2013 plan, the committee has the discretion to modify or revise the targets as necessary to reflect any significant beneficial or adverse change that results in a substantial positive or negative effect on the Company's performance as a whole, such as sales of assets, mergers, acquisitions, divestitures, spin-offs or unanticipated matters such as economic conditions, indicators of growth or recession in business segments, nature of the Company's operations or changes in or effect of applicable laws, regulations or accounting practices.

Under the plan, every participating named executive officer other than the Chief Executive Officer had the opportunity to earn up to 100% of his base salary depending on performance of the Company against the designated performance goal and performance of the executive against personal criteria determined at the beginning of 2013 by the Chief Executive Officer. Under separate terms approved by the Compensation Committee and contained in his employment agreement, Mr. Hanson, who served as the Chief Executive Officer during 2013, participated in the plan with potential to earn a target incentive payment of 75% of his base salary, depending on achievement of the Company's target consolidated performance goal and pre-designated personal critical success factors, and a maximum of 150% of his base salary upon achievement of the maximum consolidated performance goal and his personal goals. The Chief Executive Officer typically carries a higher target and maximum bonus incentive plan percentage as compared to other named executive officers as a result of his leadership role in setting Company policy and strategic planning.

Performance Criteria. In 2013, the Compensation Committee approved the following corporate consolidated operating income performance criteria for consideration of bonus awards to the named executive officers and other covered employees under the 2013 bonus incentive plan:

Threshold Operating Income	Target Operating Income	Maximum Operating Income
$59.3 million	$84.7 million	$99.7 million

Where an employee is primarily involved in a particular business unit, the financial performance criteria under the bonus incentive plan are weighted toward the operational performance of the employee's business unit rather than consolidated Company performance. The "Non-Equity Incentive Plan Compensation" column of the 2013 Summary Compensation Table below reflects the payments that named executive officers earned and received under the Company's 2013 bonus incentive plan, and the "Bonus" column of the same table reflects any discretionary cash bonus payments received by named executive officers during 2013. During 2013, on a consolidated basis, the Company achieved adjusted consolidated operating income of $69.3 million. The Company's 2013 adjusted operating income exceeded the Company's threshold consolidated financial performance criteria under the 2013 bonus incentive plan but did not meet the target criteria under the plan. As a result, for 2013 many of the eligible named executive officers and other eligible executives and employees received a cash bonus award that was lower in amount than the cash bonus they received for 2012, when the Company's financial performance exceeded the applicable target financial performance criteria.

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In addition to overall company performance, when considering the 2013 bonus incentive plan awards paid to the Company's named executive officers, the Compensation Committee also considered the individual performances and accomplishments of each officer. For example, when considering the bonus award paid to Mr. Hanson, among the factors the committee took into consideration was Mr. Hanson's effective leadership in the Company's achievement of several important strategic objectives during the year, such as further re-focusing the strategies and organization of the Company through the GeoVentures and GeoScience divisions, the Company's development of its seabed strategy and acquisition of an interest in the OceanGeo ocean-bottom joint venture and subsequent acquisition of a controlling interest in the joint venture. When considering the bonus award paid to Mr. Williamson, among the factors the committee took into consideration were the strong 2013 financial performance of his GeoVentures Division and his involvement and leadership in several successful collaborative projects during 2013. When considering the bonus award paid to Mr. Usher, among the factors the committee took into consideration were the positive 2013 financial results of his GeoScience Division and his role in reorganizing the Division to a more effective, efficient and strategic structure. When considering the bonus award paid to Mr. Heinlein, among the factors the committee took into consideration were his efforts in connection with several finance transactions during 2013 and strengthening the Company's financial organization and capital structure. When considering the bonus award paid to Mr. Hulme, among the factors the committee took into consideration were his efforts to promote and increase the business of OceanGeo and his promotion to serve as Senior Vice President, Ocean Bottom Services, and appointment as chief executive officer of OceanGeo.

In February 2014, the Compensation Committee approved the Company's 2014 bonus incentive plan. The general structure of the 2014 bonus incentive plan is similar to that of the 2013 plan, except the particular performance goals designated under the 2014 plan are based 50% on operating income and 50% on cash generation, rather than 100% on operating income. The committee believed that it was advisable to use both cash generation and operating income as appropriate measures of success during 2014 because the Company is emphasizing improvements in liquidity during 2014. The specific performance goals in the 2014 plan reflect the Company's confidential strategic plans, and cannot be disclosed at this time because it would provide the Company's competitors with confidential information regarding the Company's market and segment outlook and strategies. The Company is currently unable to determine how difficult it will be for the Company to meet the designated performance goals under the 2014 plan. Generally, the committee attempts to establish the threshold, target and maximum levels such that the relative difficulty of achieving each level is approximately consistent from year to year.

The Compensation Committee reviews the annual bonus incentive plan each year to ensure that the key elements of the plan continue to meet the objectives described above.

Long-Term Stock-Based Incentive Compensation

The Company has structured its long-term incentive compensation to provide for an appropriate balance between rewarding performance and encouraging employee retention and stock ownership. There is no pre-established policy or target for the allocation between either cash or non-cash or short-term and long-term incentive compensation; however, at executive management levels, the Compensation Committee strives for compensation to increasingly focus on longer-term incentives. In conjunction with the Board, executive management is responsible for setting and achieving long-term strategic goals. In support of this responsibility, compensation for executive management, and most particularly the Chief Executive Officer, tends to be weighted towards rewarding long-term value creation for stockholders.

For 2013, there were three forms of long-term equity incentives utilized for executive officers and key employees: stock options, restricted stock, and restricted stock units. For 2014, the Company has again recommended that stock options, restricted stock and restricted stock units be the principal forms of long-term equity-based incentives to be utilized for executive officers and key employees. The Company's long-term incentive plans have provided the principal method for executive officers to acquire equity or equity-linked interests in the Company.

Of the total stock option or restricted stock employee awards made by the Company during 2013, 71% were in the form of stock options and 29% were in the form of restricted stock or restricted stock units. The 2013 Long-Term Incentive Plan ("2013 LTIP") limits the number of awards the Company can grant under the plan in the form of full-value awards, such as restricted stock and restricted stock units, to 1,300,000 shares, or less than 35% of the total

shares authorized for grant under the plan.

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Stock Options. Under the Company's equity plans, stock options may be granted having exercise prices equal to the closing price of the Company's stock on the date before the date of grant. In any event, all awards of stock options are made at or above the market price at the time of the award. The Compensation Committee will not grant stock options having exercise prices below the market price of the Company's stock on the date of grant, and will not reduce the exercise price of stock options (except in connection with adjustments to reflect recapitalizations, stock or extraordinary dividends, stock splits, mergers, spin-offs and similar events, as required by the relevant plan) without the consent of the Company's stockholders. Stock options generally vest ratably over four years, based on continued employment, and the terms of the 2013 LTIP require stock options granted under that plan to follow that vesting schedule unless the Compensation Committee approves a different schedule when approving the grant. Prior to the exercise of an option, the holder has no rights as a stockholder with respect to the shares subject to such option, including voting rights and the right to receive dividends or dividend equivalents. New option grants normally have a term of ten years.

The purpose of stock options is to provide equity compensation with value that has been traditionally treated as entirely at-risk, based on the increase in the Company's stock price and the creation of stockholder value. Stock options also allow executive officers and key employees to have equity ownership and to share in the appreciation of the value of the Company's stock, thereby aligning their compensation directly with increases in stockholder value. Stock options only have value to their holder if the stock price appreciates in value from the date options are granted. Stock option award decisions are generally based on past business and individual performance. In determining the number of options to be awarded, the Company also considers the grant recipient's qualitative and quantitative performance, the size of stock option and other stock based awards in the past, and expectations of the grant recipient's future performance. In 2013, a total of 150 employees received option awards, covering 1,788,300 shares of common stock. In 2013, the named executive officers received option awards for a total of 310,000 shares, or approximately 17% of the total options awarded in 2013.

Restricted Stock and Restricted Stock Units. The Company uses restricted stock and restricted stock units to focus executives on long-term performance and to help align their compensation more directly with stockholder value. Vesting of restricted stock and restricted stock units typically occurs ratably over three years, based solely on continued employment of the recipient-employee, and the terms of the 2013 LTIP require restricted stock and restricted stock units granted under that plan to follow that vesting schedule unless the Compensation Committee approves a different schedule when approving the grant. In 2013, 155 employees received restricted stock or restricted stock unit awards, covering an aggregate of 714,950 shares of restricted stock and shares underlying restricted stock units. The named executive officers received awards totaling 130,000 shares of restricted stock in 2013, or approximately 18% of the total shares of restricted stock awarded to employees in 2013.

Awards of restricted stock units have been made to certain of the Company's foreign employees in lieu of awards of restricted stock. Restricted stock units provide certain tax benefits to foreign employees as the result of foreign law considerations, so the Company expects to continue to award restricted stock units to designated foreign employees for the foreseeable future.

The Compensation Committee reviews the long-term incentive program each year to ensure that the key elements of this program continue to meet the objectives described above.

Approval and Granting Process. As described above, the Compensation Committee reviews and approves all stock option, restricted stock and restricted stock unit awards made to executive officers, regardless of amount. With respect to equity compensation awarded to employees other than executive officers, the committee reviews and approves all grants of restricted stock, stock options and restricted stock units above 5,000 shares, generally based upon the recommendation of the Chief Executive Officer. Committee approval is required for any grant to be made to an executive officer in any amount. The committee has granted to the Chief Executive Officer the authority to approve grants to any employee other than an executive officer of (i) up to 5,000 shares of restricted stock and (ii) stock options for not more than 5,000 shares. The Chief Executive Officer is also required to provide a report to the committee of all awards of options and restricted stock made by him under this authority. The Company believes that this policy is beneficial because it enables smaller grants to be made more efficiently. This flexibility is particularly important with respect to attracting and hiring new employees, given the increasingly competitive market for talented

and experienced technical and other personnel in locales in which the Company's employees work.

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All grants of restricted stock, restricted stock units and stock options to employees or directors are granted on one of four designated quarterly grant dates during the year: March 1, June 1, September 1 or December 1. The Compensation Committee approved these four dates because they are not close to any dates on which earnings announcements or other announcements of material events would normally be made by the Company. For an award to a current employee, the grant date for the award is the first designated quarterly grant date that occurs after approval of the award. For an award to a newly hired employee who is not yet employed by the Company at the time the award is approved, the grant date for the award is the first designated quarterly grant date that occurs after the new employee commences work. The Company believes that this process of fixed quarterly grant dates is beneficial because it serves to remove any perception that the grant date for an award could be capable of manipulation or change for the benefit of the recipient. In addition, having all grants occur on a maximum of four days during the year simplifies certain fair value accounting calculations related to the grants, thereby minimizing the administrative burden associated with tracking and calculating the fair values, vesting schedules and tax-related events upon vesting of restricted stock and also lessening the opportunity for inadvertent calculation errors.

With the exception of significant promotions, new hires or unusual circumstances, the Company has historically made most awards of equity compensation to employees on December 1 of each year. This date was originally selected because (i) it enables the Company to consider individual performance eleven months into the fiscal year, (ii) it simplifies the annual budget process by having the expense resulting from the equity award occur late in the year, (iii) the date is approximately three months before the date that the Company normally pays any annual incentive bonuses and (iv) generally speaking, December 1 is not close to any dates on which an earnings announcement or other announcement of a material event would normally be made by the Company. Until 2014, the Company also made annual awards of equity compensation to its non-employee directors on December 1 of each year. In 2013, the Governance Committee of the Board decided that, commencing in 2014, the annual grant date for non-employee directors will be changed to March 1 of each year in order to maximize grants under the 2004 LTIP prior to its expiration in May 2014 and to move to a grant date closer to the Company’s annual stockholders' meeting, which is a practice common to many public companies. At its regular meeting on February 10, 2014, the Compensation Committee decided that, for 2014 only, the annual awards of equity compensation to employees for 2014 would be made on March 1 instead of December 1 in order to utilize all available shares remaining in the 2004 LTIP prior to its expiration in May 2014. In reaching its decision, the Compensation Committee also recognized that the Company’s announcement of its 2013 earnings is scheduled to occur more than two weeks prior to the March 1, 2014 grant date. Commencing in 2015, the Company intends for annual awards of equity compensation to employees to once again be made on December 1 of each year.

Clawback Policy

The Company has a Compensation Recoupment Policy (commonly referred to as a “clawback” policy), which provides that, in the event of a restatement of its financial results due to material noncompliance with applicable financial reporting requirements, the Board will, if it determines appropriate and subject to applicable laws and the terms and conditions of the applicable stock plans, programs or arrangements, seek reimbursement of the incremental portion of performance-based compensation, including performance-based bonuses and long-term incentive awards, paid to current or former executive officers within three years of the restatement date, in excess of the compensation that would have been paid had the compensation amount been based on the restated financial results.

Personal Benefits, Perquisites and Employee Benefits

The Company’s Board of Directors and executives have concluded that the Company will not offer most perquisites traditionally offered to executives of similarly-sized companies. As a result, perquisites and any other similar personal benefits offered to executive officers are substantially the same as those offered to the Company’s general salaried employee population. These offered benefits include medical and dental insurance, life insurance, disability insurance, a vision plan, charitable gift matching (up to designated limits), a 401(k) plan with a company match of certain levels of contributions, flexible spending accounts for healthcare and dependent care and other customary employee benefits. Business-related relocation benefits may be reimbursed on a case-by-case basis. The Company intends to continue applying its general policy of not providing specific personal benefits and perquisites to its executives; however, the Company may, in its discretion, revise or add to any executive’s personal benefits and perquisites if it deems it

advisable.

Risk Management Considerations

The Compensation Committee believes that the Company's bonus and equity programs create incentives for employees to create long-term stockholder value. The committee has considered the concept of risk as it relates to the Company's compensation programs and has concluded that the Company's compensation programs do not encourage excessive or inappropriate risk-taking. Several elements of the compensation programs are designed to promote the creation of long-term value and thereby discourage behavior that leads to excessive risk:

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The compensation programs consist of both fixed and variable compensation. The fixed (or salary) portion is designed to provide a steady income regardless of the Company's stock price performance so that executives do not focus exclusively on stock price performance to the detriment of other important business metrics. The variable (cash bonus and equity) portions of compensation are designed to reward both short- and long-term corporate performance. The Compensation Committee believes that the variable elements of compensation are a sufficient percentage of overall compensation to motivate executives to produce positive short- and long-term corporate results, while the fixed element is also sufficiently high such that the executives are not encouraged to take unnecessary or excessive risks in doing so.

- The financial metrics used to determine the amount of an executive's bonus are measures the committee believes contribute to long-term stockholder value and ensure the continued viability of the Company. Moreover, the committee attempts to set ranges for these measures that encourage success without encouraging excessive risk taking to achieve short-term results. In addition, the overall maximum bonus for each participating named executive officer other than the Company's Chief Executive Officer is not expected to exceed 100% of the executive's base salary under the bonus plan, and the overall bonus for the Chief Executive Officer under his employment agreement will not exceed 150% of his base salary under the bonus plan, in each case no matter how much the Company's financial performance exceeds the ranges established at the beginning of the year.
- The Company has strict internal controls over the measurement and calculation of the financial metrics that determine the amount of an executive's bonus, designed to keep it from being susceptible to manipulation by an employee, including executives.
- Stock options become exercisable over a four-year period and remain exercisable for up to ten years from the date of grant, encouraging executives to look to long-term appreciation in equity values.
- Restricted stock becomes exercisable over a three-year period, again encouraging executives to look to long-term appreciation in equity values.
- Senior executives, including named executive officers, are required to acquire over time and hold shares of the Company's stock having a value of between one and four times the executive's annual base salary, depending on the level of the executive. The Compensation Committee believes that the stock ownership guidelines provide a considerable incentive for management to consider the Company's long-term interests, since a portion of their personal investment portfolio consists of company stock.
- In addition, the Company does not permit any executive officers or directors to enter into any derivative or hedging transactions involving its stock, including short sales, market options, equity swaps and similar instruments, thereby preventing executives from insulating themselves from the effects of poor company stock price performance. Please refer to "— Stock Ownership Requirements; Hedging Policy" below.
- The Company has a compensation recoupment (clawback) policy that provides, in the event of a restatement of its financial results due to material noncompliance with financial reporting requirements, for reimbursement of the incremental portion of performance-based compensation, including performance-based bonuses and long-term incentive awards, paid to current or former executive officers within three years of the restatement date, in excess of the compensation that would have been paid had such compensation amount been based on the restated financial results. Please refer to "— Clawback Policy" above.

Indemnification of Directors and Executive Officers

The Company's Bylaws provide certain rights of indemnification to its directors and employees (including executive officers) in connection with any legal action brought against them by reason of the fact that they are or were a director, officer, employee or agent of the Company, to the full extent permitted by law. The Bylaws also provide, however, that no such obligation to indemnify exists as to proceedings initiated by an employee or director against the Company or its directors unless (a) it is a proceeding (or part thereof) initiated to enforce a right to indemnification or (b) was authorized or consented to by the Company's Board of Directors.

As discussed below, the Company has also entered into employment agreements with certain of its executive officers that provide for the Company to indemnify the executive to the fullest extent permitted by its Certificate of Incorporation and Bylaws. The agreements also provide that the Company will provide the executive with coverage

under its directors' and officers' liability insurance policies to the same extent as provided to its other executives.

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Stock Ownership Requirements; Hedging Policy

The Company believes that broad-based stock ownership by its employees (including executive officers) enhances its ability to deliver superior stockholder returns by increasing the alignment between the interests of employees and stockholders. Accordingly, the Board has adopted stock ownership requirements applicable to each of the senior executives, including the named executive officers. The policy requires each executive to retain direct ownership of at least 50% of all shares of the Company's stock received upon exercise of stock options and vesting of awards of restricted stock or restricted stock units until the executive owns shares having an aggregate value equal to the following multiples of the executive's annual base salary:

President and Chief Executive Officer — 4x

Executive Vice President — 2x

Senior Vice President — 1x

As of December 31, 2013, all of the Company's senior executives were in compliance with the stock ownership requirements. In addition, the Company does not permit any of its executive officers or directors to enter into any derivative or hedging transactions with respect to its stock, including short sales, market options, equity swaps and similar instruments.

Impact of Regulatory Requirements and Accounting Principles on Compensation

The financial reporting and income tax consequences to the Company of individual compensation elements are important considerations for the Compensation Committee when it is analyzing the overall level of compensation and the mix of compensation among individual elements. Under Section 162(m) of the Internal Revenue Code and the related federal treasury regulations, the Company may not deduct annual compensation in excess of $1 million paid to certain employees — generally the Chief Executive Officer and four other most highly compensated executive officers — unless that compensation qualifies as "performance-based" compensation. Overall, the committee seeks to balance its objective of ensuring an effective compensation package for the executive officers with the need to maximize the immediate deductibility of compensation — while ensuring an appropriate (and transparent) impact on reported earnings and other closely followed financial measures.

In making its compensation decisions, the Compensation Committee has considered the limitations on deductibility within the requirements of Internal Revenue Code Section 162(m) and its related Treasury regulations. As a result, the committee has designed much of the total compensation packages for the executive officers to qualify for the exemption of "performance-based" compensation from the deductibility limit. However, the committee does have the discretion to design and use compensation elements that may not be deductible within the limitations under Section 162(m), if the committee considers the tax consequences and determines that those elements are in the Company's best interests. To maintain flexibility in compensating executive officers in a manner designed to promote varying corporate goals, the Company has not adopted a policy that all compensation must be deductible.

Certain payments to named executive officers under the 2013 annual incentive plan may not qualify as performance-based compensation under Section 162(m) because the awards were calculated and paid in a manner that may not meet the requirements under Section 162(m) and the related Treasury regulations. Given the rapid changes in the Company's business and industry that have occurred during recent years and those that may occur in 2014 and subsequent years, the Company believes that it is better served in implementing a plan that provides for adjustments and discretionary elements for its senior executives' incentive compensation, rather than ensuring that it implements all of the requirements and limitations under Section 162(m) into these incentive plans.

Likewise, the impact of Section 409A of the Internal Revenue Code is taken into account, and executive compensation plans and programs are, in general, designed to comply with the requirements of that section so as to avoid possible adverse tax consequences that may result from non-compliance.

For accounting purposes, the Company applies the guidance in ASC Topic 718 to record compensation expense for its equity-based compensation grants. ASC Topic 718 is used to develop the assumptions necessary and the model appropriate to value the awards as well as the timing of the expense recognition over the requisite service period, generally the vesting period, of the award.

Executive officers will generally recognize ordinary taxable income from stock option awards when a vested option is exercised. The Company generally receives a corresponding tax deduction for compensation expense in the year of

exercise. The amount included in the executive officer’s wages and the amount the Company may deduct is equal to the common stock price when the stock options are exercised less the exercise price, multiplied by the number of shares under the stock options exercised. The Company does not pay or reimburse any executive officer for any taxes due upon exercise of a stock option. The Company has not historically issued any tax-qualified incentive stock options under Section 422 of the Internal Revenue Code.

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Executives will generally recognize taxable ordinary income with respect to their shares of restricted stock at the time the restrictions lapse (unless the recipient elects to accelerate recognition as of the date of grant). Restricted stock unit awards are generally subject to ordinary income tax at the time of payment or issuance of unrestricted shares of stock. The Company is generally entitled to a corresponding federal income tax deduction at the same time the executive recognizes ordinary income.

COMPENSATION COMMITTEE REPORT

The Compensation Committee has reviewed and discussed the Compensation Discussion and Analysis included in this Annual Report on Form 10-K with management of ION. Based on such review and discussions, the Compensation Committee has recommended to the Board of Directors that the Compensation Discussion and Analysis be included in this Annual Report on Form 10-K.

Franklin Myers, Chairman
David H. Barr
James M. Lapeyre, Jr.
John N. Seitz

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SUMMARY COMPENSATION TABLE

The following table summarizes the compensation paid to or earned by the Company's named executive officers at December 31, 2013.

Name and Principal Position	Year	Salary ($)	Bonus ($)	Stock Awards ($)	Option Awards ($)	Non-Equity Incentive Plan Compensation ($)	All Other Compensation ($)	Total ($)
R. Brian Hanson	2013	490,000	—	214,800	235,000	395,000	5,813	1,340,613
President, Chief	2012	450,000	—	279,900	260,100	450,000	4,284	1,444,284
Executive Officer	2011	353,000	—	766,628	1,130,500	300,000	8,058	2,558,186
and Director								
Christopher T. Usher	2013	350,000	—	71,600	141,000	300,000	6,202	868,802
Executive Vice	2012	21,538	125,000	311,000	173,400	—	326	631,264
President and COO, GeoScience Division								
Ken Williamson	2013	358,000	—	71,600	141,000	215,000	7,650	793,250
Executive Vice	2012	340,000	—	93,300	173,408	300,000	7,454	914,162
President and COO,	2011	300,000	—	87,150	192,700	300,000	8,250	888,100
GeoVentures Division								
Gregory J. Heinlein	2013	312,000	—	53,700	94,000	160,000	109,892	729,592
Senior Vice	2012	300,000	—	31,100	86,700	150,000	5,192	572,992
President and Chief	2011	23,077	—	166,747	662,888	—	692	853,404
Financial Officer								
Colin Hulme	2013	312,000	—	53,700	117,500	187,200	6,390	676,790
Senior Vice President, Ocean Bottom Services								

Discussion of Summary Compensation Table

Stock Awards Column. All of the amounts in the "Stock Awards" column reflect the grant-date fair value of awards of restricted stock made during the applicable fiscal year (excluding any impact of assumed forfeiture rates) under the Company's 2004 LTIP. While unvested, a holder of restricted stock is entitled to the same voting rights as all other holders of common stock. In each case, unless stated otherwise below, the awards of shares of restricted stock vest in one-third increments each year, over a three-year period. The values contained in the Summary Compensation Table under the Stock Awards column are based on the grant date fair value of all stock awards (excluding any impact of assumed forfeiture rates). In addition to the grants and awards in 2013 described in the "2013 Grants of Plan-Based Awards" table below:

- Pursuant to his prior employment agreement then in effect, on March 1, 2011, Mr. Hanson received an award of 38,561 shares of restricted stock, which is equal to $327,000 (the amount of cash incentive plan compensation that Mr. Hanson earned for fiscal 2010) divided by $8.48, which was the average of the closing sales price per share on the NYSE of the Company's shares of common stock for the last ten business days of 2010. The shares of restricted stock will vest on March 1, 2014.

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- At the beginning of 2011, Mr. Hanson was serving as Executive Vice President and Chief Financial Officer. In August 2011, Mr. Hanson was promoted to President and Chief Operating Officer in addition to his role as Chief Financial Officer. In November 2011, Mr. Heinlein was hired as Senior Vice President and Chief Financial Officer and Mr. Hanson continued as President and Chief Operating Officer. On January 1, 2012, Mr. Hanson was appointed as President and Chief Executive Officer. In connection with his promotion to President and Chief Operating Officer in August 2011, on September 1, 2011, Mr. Hanson received an award of 42,000 shares of restricted stock.
- On December 1, 2012, Mr. Hanson received an award of 45,000 shares of restricted stock.
- In connection with his hire on November 30, 2012, as Executive Vice President & Chief Operating Officer, GeoScience Division, on December 1, 2012, Mr. Usher received an award of 50,000 shares of restricted stock.
- On December 1, 2011, Mr. Williamson received an award of 15,000 shares of restricted stock.
- On December 1, 2012, Mr. Williamson received an award of 15,000 shares of restricted stock.
- In connection with his hire on November 28, 2011 as Senior Vice President and Chief Financial Officer, on December 1, 2011, Mr. Heinlein received an award of 28,700 shares of restricted stock.
- On December 1, 2012, Mr. Heinlein received an award of 5,000 shares of restricted stock.

Option Awards Column. All of the amounts shown in the "Option Awards" column reflect stock options granted under the 2004 LTIP. In each case, unless stated otherwise below, the options vest 25% each year over a four-year period. The values contained in the Summary Compensation Table under the Stock Options column are based on the grant date fair value of all option awards (excluding any impact of assumed forfeiture rates). For a discussion of the valuation assumptions for the awards, see Note 9, Stockholders' Equity and Stock-Based Compensation — Valuation Assumptions. All of the exercise prices for the options equal or exceed the fair market value per share of the Company's common stock on the date of grant. In addition to the grants and awards in 2013 described in the "2013 Grants of Plan-Based Awards" table below:

- In connection with his promotion to President and Chief Operating Officer in August 2011, on September 1, 2011, Mr. Hanson received an award of nonqualified stock options to purchase 250,000 shares of the Company's common stock for an exercise price of $7.07 per share.
- On December 1, 2012, Mr. Hanson received an award of options to purchase 75,000 shares of common stock for an exercise price of $5.96 per share.
- In connection with his hire on November 30, 2012, as Executive Vice President & Chief Operating Officer, GeoScience Division, on December 1, 2012, Mr. Usher received an award of options to purchase 50,000 shares of common stock for an exercise price of $5.96 per share.
- On December 1, 2011, Mr. Williamson received an award of options to purchase 50,000 shares of common stock for an exercise price of $5.81 per share.
- On December 1, 2012, Mr. Williamson received an award of options to purchase 50,000 shares of common stock for an exercise price of $5.96 per share.
- In connection with his hire on November 28, 2011 as Senior Vice President and Chief Financial Officer, on December 1, 2011, Mr. Heinlein received an award of options to purchase 172,000 shares of common stock for an exercise price of $5.81 per share.
- On December 1, 2012, Mr. Heinlein received an award of options to purchase 25,000 shares of common stock for an exercise price of $5.96 per share.

Other Columns. Mr. Usher was hired as Executive Vice President and Chief Operating Officer, GeoScience Division, on November 30, 2012. In connection with his hire, Mr. Usher received a sign-on bonus of $125,000.

All payments of non-equity incentive plan compensation reported for 2013 were made in February 2014 with regard to the 2013 fiscal year and were earned and paid pursuant to the Company's 2013 incentive plan.

The Company does not sponsor for its employees (i) any defined benefit or actuarial pension plans (including supplemental plans), (ii) any non-tax-qualified deferred compensation plans or arrangements or (iii) any nonqualified defined contribution plans.

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The Company's general policy is that its executive officers do not receive any executive "perquisites," or any other similar personal benefits that are different from what the Company's salaried employees are entitled to receive. The Company provides the named executive officers with certain group life, health, medical and other non-cash benefits generally available to all salaried employees, which are not included in the "All Other Compensation" column in the Summary Compensation Table pursuant to SEC rules. With the exception of reimbursements of moving expenses received by Mr. Heinlein, the amounts shown in the "All Other Compensation" column solely consist of employer matching contributions to the Company's 401(k) plan. Mr. Heinlein was hired in November 2011 as Senior Vice President and Chief Financial Officer and was reimbursed a total of $103,302 for moving expenses incurred in 2013.

2013 GRANTS OF PLAN-BASED AWARDS

Name	Grant Date	Estimated Future Payouts Under Non-Equity Incentive Plan Awards(1)(2)			All Other Stock Awards: Number of Shares of Stock or Units (#)(3)	All Other Option Awards: Number of Securities Underlying Options (#)(4)	Exercise or Base Price of Option Awards ($/Sh)	Grant Date Fair Value of Stock and Option Awards ($)(5)
		Threshold ($)	Target ($)	Maxi-mum ($)				
R. Brian Hanson	—	—	367,500	735,000	—	—	—	—
	12/1/2013	—	—	—	60,000	100,000	3.86	466,600
Christopher T. Usher	—	87,500	175,000	350,000	—	—	—	—
	12/1/2013	—	—	—	20,000	60,000	3.86	218,200
Ken Williamson	—	89,500	179,000	358,000	—	—	—	—
	12/1/2013	—	—	—	20,000	60,000	3.86	218,200
Gregory J. Heinlein	—	78,000	156,000	312,000	—	—	—	—
	12/1/2013	—	—	—	15,000	40,000	3.86	151,900
Colin Hulme	—	78,000	156,000	312,000	—	—	—	—
	12/1/2013	—	—	—	15,000	50,000	3.86	175,400

(1) Reflects the estimated threshold, target and maximum award amounts for payouts under the Company's 2013 incentive plan to its named executive officers. Under the plan, every participating executive other than Mr. Hanson, who served as President and Chief Executive Officer during 2013, had the opportunity to earn a maximum of 100% of his base salary depending on performance of the Company against the designated performance goal, and performance of the executive against personal performance criteria. Under separate terms approved by the Compensation Committee and contained in his employment agreement, Mr. Hanson participated in the plan with the potential to earn a target incentive payment of 75% of his base salary, depending on achievement of the Company's target consolidated performance goal and pre-designated personal critical success factors, and a maximum of 150% of his base salary upon achievement of the maximum consolidated performance goal and the personal critical success factors. Mr. Hanson's employment agreement does not specify that he will earn a bonus upon achievement of a threshold consolidated performance goal. Because award determinations under the plan were based in part on outcomes of personal evaluations of employee performance by the Chief Executive Officer and the Compensation Committee, the computation of actual awards generated under the plan upon achievement of threshold and target company performance criteria differed from the above estimates. See "— Compensation Discussion and Analysis — Elements of Compensation — Bonus Incentive Plan" above. For actual payout amounts to named executive officers under the 2013 bonus incentive plan, see the "Non-Equity Incentive Plan Compensation" column in the "Summary Compensation Table" above.

(2) The Company does not offer or sponsor any "equity incentive plans" (as that term is defined in Item 402(a) of Regulation S-K) for employees.

(3) All stock awards reflect the number of shares of restricted stock granted under the 2004 LTIP. While unvested, a holder of restricted stock is entitled to the same voting rights as all other holders of common stock. In each case, unless stated otherwise below, the awards of shares of restricted stock vest in one-third increments each year, over a three-year period.

(4) All amounts reflect awards of stock options granted under the 2004 LTIP. In each case, unless stated otherwise below, the options vest 25% each year over a four-year period. All of the exercise prices for the options reflected in the above chart equal or exceed the fair market value per share of Company common stock on the date of grant (on November 29, 2013, the last completed trading day prior to the December 1, 2013 grant date, the closing price per share on the NYSE was $3.86).

(5) The values contained in the table are based on the grant date fair value of the award computed in accordance with ASC Topic 718 for financial statement reporting purposes, but exclude any impact of assumed forfeiture rates. For a discussion of valuation assumptions, see Note 9, Stockholders' Equity and Stock-Based Compensation — Valuation Assumptions.

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Employment Agreements

In recent years, the Company has not entered into employment agreements with employees other than its Chief Executive Officer and Chief Financial Officer. The Company has generally entered into employment agreements with employees only when the employee holds an executive officer position and the Compensation Committee has determined that an employment agreement is desirable for the Company to obtain a measure of assurance as to the executive's continued employment in light of prevailing market competition for the particular position held by the executive officer, or where the committee determines that an employment agreement is necessary and appropriate to attract an executive in light of market conditions, the prior experience of the executive or practices at the Company with respect to other similarly situated employees.

The following discussion describes the material terms of the Company's existing executive employment agreements with named executive officers:

R. Brian Hanson

In connection with his appointment as President and Chief Executive Officer on January 1, 2012, Mr. Hanson entered into a new employment agreement. The agreement provides for Mr. Hanson to serve as President and Chief Executive Officer for an initial term of three years, with automatic two-year renewals thereafter. Any change of control of the Company after January 1, 2013 will cause the remaining term of Mr. Hanson's employment agreement to automatically adjust to a term of three years, which will commence on the effective date of the change of control.

The agreement provides for Mr. Hanson to receive an initial base salary of $450,000 per year and be eligible to receive an annual performance bonus under the Company's incentive compensation plan, with a target incentive plan bonus amount equal to 75% of his base salary and with a maximum incentive plan bonus amount equal to 150% of his base salary.

Under the agreement, and as approved by the Compensation Committee, Mr. Hanson will be entitled to receive grants of (i) options to purchase shares of common stock and (ii) shares of restricted stock. Mr. Hanson will also be eligible to participate in other equity compensation plans that are established for key executives, as approved by the Compensation Committee. In the agreement, the Company also agreed to indemnify Mr. Hanson to the fullest extent permitted by its Certificate of Incorporation and Bylaws, and to provide him coverage under directors' and officers' liability insurance policies to the same extent as other Company executives.

The Company may at any time terminate its employment agreement with Mr. Hanson for "Cause" if Mr. Hanson (i) willfully and continuously fails to substantially perform his obligations, (ii) willfully engages in conduct materially and demonstrably injurious to the Company's property or business (including fraud, misappropriation of funds or other property, other willful misconduct, gross negligence or conviction of a felony or any crime involving moral turpitude) or (iii) commits a material breach of the agreement. In addition, the Company may at any time terminate the agreement if Mr. Hanson suffers permanent and total disability for a period of at least 180 consecutive days, or if Mr. Hanson dies. Mr. Hanson may terminate his employment agreement for "Good Reason" if the Company breaches any material provision of the agreement, the Company assigns to Mr. Hanson any duties materially inconsistent with his position, the Company materially reduces his duties, functions, responsibilities, budgetary or other authority, or takes other action that results in a diminution in his office, position, duties, functions, responsibilities or authority, the Company relocates his workplace by more than 50 miles, or the Company elects not to extend the term of his agreement.

In his agreement, Mr. Hanson agrees not to compete against the Company, assist any competitor, attempt to solicit any of the Company's suppliers or customers, or solicit any of the Company's employees, in any case during his employment and for a period of two years after his employment ends. The employment agreement also contains provisions relating to protection of the Company's confidential information and intellectual property. The agreement does not contain any tax gross-up benefits.

For a discussion of the provisions of Mr. Hanson's employment agreement regarding compensation to Mr. Hanson in the event of a change of control affecting the Company or his termination by the Company without cause or by him for good reason, see "— Potential Payments Upon Termination or Change of Control — R. Brian Hanson" below.

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Gregory J. Heinlein

In connection with his hire as Senior Vice President and Chief Financial Officer in November 2011, Mr. Heinlein entered into an employment agreement that will remain in effect for the duration that Mr. Heinlein serves in such capacity. In his agreement, Mr. Heinlein agrees not to compete against the Company, assist any competitor, attempt to solicit any of the Company's suppliers or customers, or solicit any of the Company's employees, in any case during his employment and for a period of one year after his employment ends. The employment agreement also contains provisions relating to protection of the Company's confidential information and intellectual property. The agreement does not contain any change-in control provisions or tax gross-up benefits. For a discussion of the provisions of Mr. Heinlein's employment agreement regarding compensation to Mr. Heinlein in the event of a change of control affecting the Company or his termination by the Company without cause or by him for good reason, see "— Potential Payments Upon Termination or Change of Control — Gregory J. Heinlein" below.

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OUTSTANDING EQUITY AWARDS AT FISCAL YEAR-END

The following table sets forth information concerning unexercised stock options (including outstanding stock appreciation rights, or SARs) and shares of restricted stock held by the Company's named executive officers at December 31, 2013:

	Option Awards(1)				Stock Awards(2)	
Name	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price ($)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested ($)(3)
R. Brian Hanson	75,000	—	8.73	5/22/2016	142,561	470,451
	20,000	—	9.97	9/1/2016		
	60,000	—	15.43	12/1/2017		
	17,500	—	3.00	12/1/2018		
	140,000 (4)	—	3.00	12/1/2018		
	125,000	125,000	7.07	9/1/2021		
	18,750	56,250	5.96	12/1/2022		
	—	100,000	3.86	12/1/2023		
Christopher T. Usher	12,500	37,500	5.96	12/1/2022	53,332	175,996
	—	60,000	3.86	12/1/2023		
Ken Williamson	70,000	—	10.85	12/1/2016	35,000	115,500
	16,000	—	15.43	12/1/2017		
	35,000	—	3.00	12/1/2018		
	50,000	—	2.83	6/1/2019		
	22,000	—	5.44	12/1/2019		
	56,250	18,750	4.58	3/1/2020		
	26,250	8,750	7.19	12/1/2020		
	25,000	25,000	5.81	12/1/2021		
	12,500	37,500	5.96	12/1/2022		
	—	60,000	3.86	12/1/2023		
Gregory J. Heinlein	86,000	86,000	5.81	12/1/2021	27,898	92,063
	6,250	18,750	5.96	12/1/2022		
	—	40,000	3.86	12/1/2023		
Colin Hulme	12,500	37,500	6.06	6/1/2022	34,998	115,493
	7,500	22,500	5.96	12/1/2022		
	—	50,000	3.86	12/1/2023		

(1) All stock option information in this table relates to nonqualified stock options granted under the 2004 LTIP. All of the unvested options in this table vest 25% each year over a four-year period.

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(2) The amounts shown represent shares of restricted stock granted under the 2004 LTIP. While unvested, the holder is entitled to the same voting rights as all other holders of common stock. Except for certain shares of restricted stock held by Mr. Hanson, in each case the grants of shares of restricted stock vest in one-third increments each year, over a three-year period. See "—Discussion of Summary Compensation Table—Stock Awards Column" above.

(3) Pursuant to SEC rules, the market value of each executive's shares of unvested restricted stock was calculated by multiplying the number of shares by $3.30 (the closing price per share of the Company's common stock on the NYSE on December 31, 2013).

(4) The amounts shown reflect awards of cash-settled SARs granted to Mr. Hanson on December 1, 2008 under the Company's Stock Appreciation Rights Plan. Mr. Hanson's SARs vested in full on December 1, 2011. See "— Summary Compensation Table — Discussion of Summary Compensation Table" above.

(5) The Company does not have outstanding any Equity Incentive Plan Awards as defined by the SEC rules. As a result, the above table omits the following columns:

- Equity Incentive Plan Awards: Number of Securities Underlying Unexercised Unearned Options
- Equity Incentive Plan Awards: Number of Unearned Shares, Units or Other Rights That Have Not Vested
- Equity Incentive Plan Awards: Market or Payout Value of Unearned Shares, Units or Other Rights That Have Not Vested

2013 OPTION EXERCISES AND STOCK VESTED

The following table sets forth certain information with respect to option and stock exercises by the named executive officers during the year ended December 31, 2013:

Name	Option Awards Number of Shares Acquired on Exercise (#)	Value Realized on Exercise ($)	Stock Awards Number of Shares Acquired on Vesting (#)	Value Realized on Vesting ($)(1)
R. Brian Hanson(2)	—	—	35,515	160,528
Christopher T. Usher(3)	—	—	16,668	59,671
Ken Williamson(4)	—	—	13,333	47,732
Gregory J. Heinlein(5)	—	—	11,234	40,217
Colin Hulme(6)	—	—	10,002	53,211

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(1) The values realized upon vesting of stock awards contained in the table are based on the market value of the Company's common stock on the date of vesting.

(2) The value realized by Mr. Hanson on the vesting of his restricted stock awards was calculated by multiplying (a) 6,515 shares by $6.19 (the closing price per share of the Company's common stock on the NYSE on June 3, 2013, the first NYSE trading date after his June 1, 2013 vesting date); (b) 14,000 shares by $4.75 (the closing price per share of common stock on the NYSE on September 3, 2013, the first NYSE trading date after his September 1, 2013 vesting date and (c) 15,000 shares by $3.58 (the closing price per share of common stock on the NYSE on December 2, 2013, the first NYSE trading date after his December 1, 2013 vesting date).

(3) The value realized by Mr. Usher on the vesting of his restricted stock awards was calculated by multiplying 16,668 shares by $3.58 (the closing price per share of common stock on the NYSE on December 2, 2013, the first NYSE trading date after his December 1, 2013 vesting date).

(4) The value realized by Mr. Williamson on the vesting of his restricted stock awards was calculated by multiplying 13,333 shares by $3.58 (the closing price per share of common stock on the NYSE on December 2, 2013, the first NYSE trading date after his December 1, 2013 vesting date).

(5) The value realized by Mr. Heinlein on the vesting of his restricted stock awards was calculated by multiplying 11,234 shares by $3.58 (the closing price per share of common stock on the NYSE on December 2, 2013, the first NYSE trading date after his December 1, 2013 vesting date).

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(6) The value realized by Mr. Hulme on the vesting of his restricted stock awards was calculated by multiplying (a) 6,668 shares by $6.19 (the closing price per share of common stock on the NYSE on June 3, 2013, the first NYSE trading date after his June 1, 2013 vesting date) and (b) 3,334 shares by $3.58 (the closing price per share of common on the NYSE on December 2, 2013, the first NYSE trading date after his December 1, 2013 vesting date).

2013 Pension Benefits And Nonqualified Deferred Compensation

None of the Company's named executive officers participates or has account balances in (i) any qualified or non-qualified defined benefit plans or (ii) in any non-qualified defined contribution plans or other deferred compensation plans maintained by the Company.

Potential Payments Upon Termination or Change of Control

Under the terms of the Company's equity-based compensation plans and its employment agreements, the Company's Chief Executive Officer and certain other named executive officers are entitled to payments and benefits upon the occurrence of specified events including termination of employment (with and without cause) and upon a change in control of the Company. The specific terms of these arrangements, as well as an estimate of the compensation that would have been payable had they been triggered as of December 31, 2013, are described in detail below. In the case of each employment agreement, the terms of these arrangements were established through the course of arms-length negotiations with each executive officer, both at the time of hire and at the times of any later amendment. As part of these negotiations, the Compensation Committee analyzed the terms of the same or similar arrangements for comparable executives employed by companies in the Company's industry group. This approach was used by the committee in setting the amounts payable and the triggering events under the arrangements. The termination of employment provisions of the employment agreements were entered into in order to address competitive concerns by providing those individuals with a fixed amount of compensation that would offset the potential risk of leaving their prior employer or foregoing other opportunities in order to join the Company. At the time of entering into these arrangements, the committee considered the aggregate potential obligations of the Company in the context of the desirability of hiring the individual and the expected compensation upon joining the Company. However, these contractual severance and post-termination arrangements have not affected the decisions the committee has made regarding other compensation elements and the rationale for compensation decisions made in connection with these arrangements.

The following summaries set forth estimated potential payments payable to each of the named executive officers upon termination of employment or a change of control of the Company under their current employment agreements and the Company's stock plans and other compensation programs as if his employment had so terminated for these reasons, or the change of control had so occurred, on December 31, 2013. The Compensation Committee may, in its discretion, agree to revise, amend or add to the benefits if it deems advisable. For purposes of the following summaries, dollar amounts are estimates based on annual base salary as of December 31, 2013, benefits paid to the named executive officer in fiscal 2013 and stock and option holdings of the named executive officer as of December 31, 2013. The summaries assume a price per share of the Company's common stock of $3.30 per share, which was the closing price per share on December 31, 2013, as reported on the NYSE. The actual amounts to be paid to the named executive officers can only be determined at the time of each executive's separation from the Company.

The amounts of potential future payments and benefits as set forth in the tables below, and the descriptions of the assumptions upon which such future payments and benefits are based and derived, may constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. These statements are estimates of payments and benefits to certain of the Company's executives upon their termination of employment or a change in control, and actual payments and benefits may vary materially from these estimates. Actual amounts can only be determined at the time of such executive's actual separation from the Company or the time of such change in control event. Factors that could affect these amounts and assumptions include the timing during the year of any such event, the Company's stock price, unforeseen future changes in the Company's benefits and compensation methodology and the age of the executive.

R. Brian Hanson

Termination and Change of Control. Mr. Hanson is entitled to certain benefits under his employment agreement upon the occurrence of any of the following events:

- the Company terminates his employment other than for cause, death or disability;
- Mr. Hanson resigns for "good reason"; or

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a "change in control" involving the Company occurs and, within 12 months following the change in control, (a) the Company or its successor terminates Mr. Hanson's employment or (b) Mr. Hanson terminates his employment after the Company or its successor (i) elects not to extend the term of his employment agreement, (ii) assigns to Mr. Hanson duties inconsistent with his CEO position, duties, functions, responsibilities, authority or reporting relationship to the Board under his employment agreement, (iii) becomes a privately-owned company as a result of a transaction in which Mr. Hanson does not participate within the acquiring group, (iv) is rendered a subsidiary or division or other unit of another company; or (v) takes any action that would constitute "good reason" under his employment agreement.

Under Mr. Hanson's employment agreement, a "change in control" occurs upon any of the following:

(1) the acquisition by a person or group of beneficial ownership of 40% or more of the Company's outstanding shares of common stock other than any acquisitions directly from the Company, acquisitions by the Company or an employee benefit plan maintained by the Company, or certain permitted acquisitions in connection with a "Merger" (as defined in sub-paragraph (3) below);

(2) changes in directors on the Company's board of directors such that the individuals that constitute the entire board cease to constitute at least a majority of directors of the board, other than new directors whose appointment or nomination for election was approved by a vote of at least a majority of the directors then constituting the entire board of directors (except in the case of election contests);

(3) consummation of a "Merger" — that is, a reorganization, merger, consolidation or similar business combination involving the Company — unless (i) owners of the Company's common stock immediately following such business combination together own more than 50% of the total outstanding stock or voting power of the entity resulting from the business combination in substantially the same proportion as their ownership of the Company's voting securities immediately prior to such Merger and (ii) at least a majority of the members of the board of directors of the corporation resulting from such Merger (or its parent corporation) were members of the Company's board at the time of the execution of the initial agreement providing for the Merger; or

(4) the sale or other disposition of all or substantially all of the Company's assets.

Upon the occurrence of any of the above events and conditions, Mr. Hanson would be entitled to receive the following (less applicable withholding taxes and subject to compliance with non-compete, non-solicit and no-hire obligations):

- over a two-year period, a cash amount equal to two times his annual base salary and two times his target bonus amount in effect for the year of termination;
- a prorated portion of any unpaid target incentive plan bonus for the year of termination; and
- continuation of insurance coverage for Mr. Hanson as of the date of his termination for a period of two years at the same cost to him as prior to the termination.

In addition, upon the occurrence of any of the above events or conditions, the vesting period for all of Mr. Hanson's unvested equity awards granted on or after January 1, 2012 having a remaining vesting period of two years or less as of the date of termination will immediately accelerate to vest in full. In such event, all restrictions on the awards will thereupon be immediately lifted and the exercise period of all outstanding vested stock options (including the option awards that have been so accelerated) granted on or after January 1, 2012 will continue in effect until the earlier of (a) two years after the date of termination or (b) the expiration of the full original term, as specified in each applicable stock option agreement.

Change of Control Under Equity Compensation Plans. Mr. Hanson and the other named executive officers currently hold outstanding awards under one or more of the following two equity compensation plans of the Company: the 2004 LTIP and the Stock Appreciation Rights Plan. Under these plans, a "change of control" will be deemed to have occurred upon any of the following (which is referred to in this section as a "Plan Change of Control"):

(1) the acquisition by a person or group of beneficial ownership of 40% or more of the outstanding shares of common stock other than acquisitions directly from the Company, acquisitions by the Company or an employee benefit plan maintained by the Company, or certain permitted acquisitions in connection with a business combination described in sub−paragraph (3) below;

(2) changes in directors such that the individuals that constitute the entire board of directors cease to constitute at least a majority of directors of the board, other than new directors whose appointment or nomination for election was

approved by a vote of at least a majority of the directors then constituting the entire board of directors (except in the case of election contests);

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consummation of a reorganization, merger, consolidation or similar business combination involving the Company, unless (i) owners of the Company's common stock immediately following such transaction together own more than
(3) 50% of the total outstanding stock or voting power of the entity resulting from the transaction and (ii) at least a majority of the members of the board of directors of the entity resulting from the transaction were members of the Company's board of directors at the time the agreement for the transaction is signed; or
(4) the sale of all or substantially all of the Company's assets.

Upon any such "Plan Change of Control," all of Mr. Hanson's stock options granted to him under the 2004 LTIP will become fully exercisable, and all restricted stock awards granted to him under the 2004 LTIP will automatically accelerate and become fully vested. In addition, any change of control of the Company will cause the remaining term of Mr. Hanson's employment agreement to automatically adjust to two years, commencing on the effective date of the change of control.

The Company believes the double-trigger change-of-control benefit referenced above maximizes stockholder value because it motivates Mr. Hanson to remain in his position for a sufficient period of time following a change of control to ensure a smoother integration and transition for the new owners. Given his experience with the Company and within the seismic industry as the Company's CFO and CEO, the Company believes Mr. Hanson's severance structure is in its best interest because it ensures that for a two-year period after leaving its employment, Mr. Hanson will not be in a position to compete against the Company or otherwise adversely affect its business.

Death, Disability or Retirement. Upon his death or disability, all options and restricted stock that Mr. Hanson holds would automatically accelerate and become fully vested. Upon his retirement, (a) all options that Mr. Hanson holds would automatically accelerate and become fully vested and (b) all shares of restricted stock that Mr. Hanson was granted prior to August 30, 2011 would automatically accelerate and become fully vested. On August 30, 2011, the Company amended the 2004 LTIP by deleting the provision that provided for the acceleration of vesting of restricted stock and restricted stock units granted under the 2004 LTIP after August 30, 2011 by reason of the retirement of a plan participant.

Termination by the Company for Cause or by Mr. Hanson Other Than for Good Reason. Upon any termination by the Company for cause or any resignation by Mr. Hanson for any reason other than for "good reason" (as defined in his employment agreement), Mr. Hanson is not entitled to any payment or benefit other than the payment of unpaid salary and possibly accrued and unused vacation pay.

Mr. Hanson's currently-held vested stock options and SARs will remain exercisable after his termination of employment, death, disability or retirement for periods of between 180 days and one year following such event, depending on the event and the terms of the applicable plan and grant agreement. If Mr. Hanson is terminated for cause, all of his vested and unvested stock options and unvested restricted stock will be immediately forfeited. The Company has not agreed to provide Mr. Hanson any additional payments in the event any payment or benefit under his employment agreement is determined to be subject to the excise tax for "excess parachute payments" under U.S. federal income tax rules, or any other "tax gross-ups" under this employment agreement.

Assuming Mr. Hanson's employment was terminated under each of these circumstances or a change of control occurred on December 31, 2013, his payments and benefits would have an estimated value as follows (less applicable withholding taxes):

Scenario	Cash Severance ($)(1)	Bonus ($)(2)	Insurance Continuation ($)(3)	Tax Gross-Ups ($)	Value of Accelerated Equity Awards ($)(4)
Without Cause or For Good Reason	980,000	735,000	29,879	—	—
Termination after change in control	980,000	735,000	29,879	—	470,451
Change of Control (if not terminated), Death or Disability	—	—	—	—	470,451
Retirement	—	—	—	—	127,251
Voluntary Termination	—	—	—	—	—

(1)

Payable over a two-year period. In addition to the listed amounts, if Mr. Hanson resigns or his employment is terminated for any reason, he may be paid for his unused vacation days. Mr. Hanson is currently entitled to 20 vacation days per year. The above table assumes that there is no earned but unpaid base salary as of the time of termination.

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(2) Represents two times the estimate of the target bonus payment Mr. Hanson would be entitled to receive pursuant to the 2013 bonus incentive plan. The actual bonus payment he would be entitled to receive upon his termination may be different from the estimated amount, depending on the achievement of payment criteria under the bonus plan.

(3) The value of insurance continuation contained in the above table is the total cost of COBRA continuation coverage for Mr. Hanson, maintaining his same levels of medical, dental and other insurance as in effect on December 31, 2013, less the amount of premiums to be paid by Mr. Hanson for such coverage.

(4) As of December 31, 2013, Mr. Hanson held (i) 38,561 unvested shares of restricted stock granted prior to August 31, 2011, and 104,000 unvested shares of restricted stock granted after August 30, 2011 and (ii) unvested stock options to purchase 281,250 shares of common stock. Options held by him having an exercise price greater than $3.30 were calculated as having a zero value. The value of the restricted stock that would accelerate and fully vest in the event of a Change in Control, death or disability was calculated by multiplying 142,561 shares by $3.30. The value of unvested restricted stock to accelerate in the event of retirement was calculated by multiplying 38,561 shares by $3.30.

Christopher T. Usher

Mr. Usher is not entitled to receive any contractual severance pay if the Company terminates his employment without cause. Upon a “Plan Change of Control” (see “— R. Brian Hanson — Change of Control Under Equity Compensation Plans” above), all of his unvested stock options granted to him under the 2004 LTIP will become fully exercisable and all restricted stock awards granted to him under the 2004 LTIP will automatically accelerate and become fully vested. Upon his death or disability, all options and restricted stock that Mr. Usher holds would automatically accelerate and become fully vested. Upon his retirement, all options that Mr. Usher holds would automatically accelerate and become fully vested. No shares of restricted stock held by Mr. Usher would automatically accelerate and become fully vested upon his retirement.

The vested stock options held by Mr. Usher will remain exercisable after his termination of employment, death, disability or retirement for periods of between 180 days and one year following such event, depending on the event and the terms of the applicable stock plan and grant agreement. If Mr. Usher is terminated for cause, all of his vested and unvested stock options and unvested restricted stock will be immediately forfeited.

Assuming his employment was terminated under each of these circumstances or a change of control occurred on December 31, 2013, his payments and benefits would have an estimated value as follows (less applicable withholding taxes):

Scenario	Cash Severance ($)(1)	Value of Accelerated Equity Awards ($)(2)
Without Cause	—	—
Change of Control (regardless of termination), Death or Disability	—	175,996
Retirement	—	—
Voluntary Termination	—	—

(1) If Mr. Usher resigns or his employment is terminated for any reason, he may be paid for his unused vacation days. Mr. Usher is currently entitled to 20 vacation days per year. The above table assumes that there is no earned but unpaid base salary as of the time of termination.

(2) As of December 31, 2013, Mr. Usher held 53,332 unvested shares of restricted stock and unvested stock options to purchase 97,500 shares of common stock. Options held by him having an exercise price greater than $3.30 were calculated as having a zero value. The value of the restricted stock that would accelerate and fully vest in the event of a Change in Control, death or disability was calculated by multiplying 53,332 shares by $3.30.

Ken Williamson

Mr. Williamson is not entitled to receive any contractual severance pay if the Company terminates his employment without cause. Upon a “Plan Change of Control” (see “— R. Brian Hanson — Change of Control Under Equity Compensation Plans” above), all of his unvested stock options granted to him under the 2004 LTIP will become fully exercisable and all restricted stock awards granted to him under the 2004 LTIP will automatically accelerate and become fully vested.

Upon his death or disability, all options and restricted stock that Mr. Williamson holds would automatically accelerate and become fully vested. Upon his retirement, all options that Mr. Williamson holds would automatically accelerate and become fully vested. No shares of restricted stock held by Mr. Williamson would automatically accelerate and become fully vested upon his retirement.

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The vested stock options held by Mr. Williamson will remain exercisable after his termination of employment, death, disability or retirement for periods of between 180 days and one year following such event, depending on the event and the terms of the applicable stock plan and grant agreement. If Mr. Williamson is terminated for cause, all of his vested and unvested stock options and unvested restricted stock will be immediately forfeited.

Assuming his employment was terminated under each of these circumstances or a change of control occurred on December 31, 2013, his payments and benefits would have an estimated value as follows (less applicable withholding taxes):

Scenario	Cash Severance ($)(1)	Value of Accelerated Equity Awards ($)(2)
Without Cause	—	—
Change of Control (regardless of termination), Death or Disability	—	115,500
Retirement	—	—
Voluntary Termination	—	—

(1) If Mr. Williamson resigns or his employment is terminated for any reason, he may be paid for his unused vacation days. Mr. Williamson is currently entitled to 20 vacation days per year. The above table assumes that there is no earned but unpaid base salary as of the time of termination.

(2) As of December 31, 2013, Mr. Williamson held 35,000 unvested shares of restricted stock and unvested stock options to purchase 150,000 shares of common stock. Options held by him having an exercise price greater than $3.30 were calculated as having a zero value. The value of the restricted stock that would accelerate and fully vest in the event of a Change in Control, death or disability was calculated by multiplying 35,000 shares by $3.30.

Gregory J. Heinlein

Termination and Change of Control. Mr. Heinlein is entitled to certain benefits under his employment agreement upon any of the following events:

- the Company terminates his employment for reasons other than for cause, death or disability; or
- Mr. Heinlein resigns for “good reason.”

In the above scenarios, Mr. Heinlein would be entitled to receive the following (less applicable withholding taxes):

- over a two-year period, a cash amount equal to two times his annual base salary; and
- any unpaid incentive plan bonuses earned by him pursuant to the terms of the relevant incentive compensation plan with respect to the year of termination.

Upon a “Plan Change of Control” (see “— R. Brian Hanson — Change of Control Under Equity Compensation Plans” above), all of Mr. Heinlein’s unvested stock options granted to him under the 2004 LTIP will become fully exercisable, and all restricted stock granted to him under the 2004 LTIP will automatically accelerate and become fully vested.

Mr. Heinlein’s employment agreement contains no change-of-control severance payment rights.

Death, Disability or Retirement. Upon his death or disability, all options and restricted stock that Mr. Heinlein currently holds would automatically accelerate and become fully vested. Upon his retirement, all stock options that Mr. Heinlein holds would automatically accelerate and become fully vested. No shares of restricted stock held by Mr. Heinlein would automatically accelerate and become fully vested upon his retirement.

Termination by the Company for Cause or by Mr. Heinlein Other Than for Good Reason. Upon any termination by the Company for cause or any resignation by Mr. Heinlein for any reason other than “good reason” (as defined in his employment agreement), Mr. Heinlein is not entitled to any payment or benefit other than the payment of unpaid salary and possibly accrued and unused vacation pay.

Mr. Heinlein’s vested stock options will remain exercisable after his termination of employment, death, disability or retirement for periods of between 180 days and one year following such event, depending on the event. If Mr. Heinlein is terminated for cause, all of his vested and unvested stock options and unvested restricted stock will be immediately forfeited.

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Assuming Mr. Heinlein's employment was terminated under each of these circumstances or a change of control occurred on December 31, 2013, his payments and benefits would have an estimated value as follows (less applicable withholding taxes):

Scenario	Cash Severance ($)(1)	Value of Accelerated Equity Awards ($)(2)
Without Cause or For Good Reason	624,000	—
Change of Control (regardless of termination), Death or Disability	—	92,063
Retirement	—	—
Voluntary Termination	—	—

(1) Payable over a two-year period. In addition to the listed amounts, if Mr. Heinlein resigns or his employment is terminated for any reason, he may be entitled to be paid for his unused vacation days. Mr. Heinlein is currently entitled to 20 vacation days per year. The above table assumes that there is no earned but unpaid base salary as of the time of termination.

(2) As of December 31, 2013, Mr. Heinlein held 27,898 unvested shares of restricted stock and unvested stock options to purchase 144,750 shares of common stock. Options held by him having an exercise price greater than $3.30 were calculated as having a zero value. The value of the restricted stock that would accelerate and fully vest in the event of a Change in Control, death or disability was calculated by multiplying 27,898 shares by $3.30.

Colin Hulme

Mr. Hulme is not entitled to receive any contractual severance pay if the Company terminates his employment without cause. Upon a "Plan Change of Control" (see "— R. Brian Hanson — Change of Control Under Equity Compensation Plans" above), all of his unvested stock options granted to him under the 2004 LTIP will become fully exercisable and all restricted stock awards granted to him under the 2004 LTIP will automatically accelerate and become fully vested. Upon his death or disability, all options and restricted stock that Mr. Hulme holds would automatically accelerate and become fully vested. Upon his retirement, all options that Mr. Hulme holds would automatically accelerate and become fully vested. No shares of restricted stock held by Mr. Hulme would automatically accelerate and become fully vested upon his retirement.

The vested stock options held by Mr. Hulme will remain exercisable after his termination of employment, death, disability or retirement for periods of between 180 days and one year following such event, depending on the event and the terms of the applicable stock plan and grant agreement. If Mr. Hulme is terminated for cause, all of his vested and unvested stock options and unvested restricted stock will be immediately forfeited.

Assuming his employment was terminated under each of these circumstances or a change of control occurred on December 31, 2013, his payments and benefits would have an estimated value as follows (less applicable withholding taxes):

Scenario	Cash Severance ($)(1)	Value of Accelerated Equity Awards ($)(2)
Without Cause	—	—
Change of Control (regardless of termination), Death or Disability	—	115,493
Retirement	—	—
Voluntary Termination	—	—

(1) If Mr. Hulme resigns or his employment is terminated for any reason, he may be paid for his unused vacation days. Mr. Hulme is currently entitled to 20 vacation days per year. The above table assumes that there is no earned but unpaid base salary as of the time of termination.

(2)

As of December 31, 2013, Mr. Hulme held 34,998 unvested shares of restricted stock and unvested stock options to purchase 110,000 shares of common stock. Options held by him having an exercise price greater than $3.30 were calculated as having a zero value. The value of the restricted stock that would accelerate and fully vest in the event of a Change in Control, death or disability was calculated by multiplying 34,998 shares by $3.30.

Compensation Committee

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General. The Compensation Committee consists of Messrs. Myers, Barr, Lapeyre and Seitz. The Compensation Committee has responsibility for the compensation of the executive officers, including the Chief Executive Officer, and the administration of the Company's executive compensation and benefit plans. The Compensation Committee also has authority to retain or replace outside counsel, compensation and benefits consultants or other experts to provide it with independent advice, including the authority to approve the fees payable and any other terms of retention. All actions regarding executive officer compensation require Compensation Committee approval. The Compensation Committee completes a comprehensive review of all elements of compensation at least annually. If it is determined that any changes to any executive officer's total compensation are necessary or appropriate, the Compensation Committee obtains such input from management as it determines to be necessary or appropriate. All compensation decisions with respect to executives other than the Chief Executive Officer are determined in discussion with, and frequently based in part upon the recommendation of, the Chief Executive Officer. The Compensation Committee makes all determinations with respect to the compensation of the Chief Executive Officer, including, but not limited to, establishing performance objectives and criteria related to the payment of his compensation, and determining the extent to which such objectives have been established, obtaining such input from the committee's independent compensation advisors as it deems necessary or appropriate.

As part of its responsibility to administer the Company's executive compensation plans and programs, the Compensation Committee, usually near the beginning of the calendar year, establishes the parameters of the annual incentive plan awards, including the performance goals relative to the Company's performance that will be applicable to such awards and the similar awards for other senior executives. It also reviews thE Company's performance against the objectives established for awards payable in respect of the prior calendar year, and confirms the extent, if any, to which such objectives have been obtained, and the amounts payable to each of the executive officers in respect of such achievement.

The Compensation Committee also determines the appropriate level and type of awards, if any, to be granted to each of the executive officers pursuant to the Company's equity compensation plans, and approves the total annual grants to other key employees, to be granted in accordance with a delegation of authority to the Company's corporate human resources officer.

The Compensation Committee reviews, and has the authority to recommend to the Board for adoption, any new executive compensation or benefit plans that are determined to be appropriate for adoption by thE Company, including those that are not otherwise subject to the approval of the stockholders. It reviews any contracts or other transactions with current or former elected officers of the Company. In connection with the review of any such proposed plan or contract, the Compensation Committee may seek from its independent advisors such advice, counsel and information as it determines to be appropriate in the conduct of such review. The Compensation Committee will direct such outside advisors as to the information it requires in connection with any such review, including data regarding competitive practices among the companies with which thE Company generally compares itself for compensation purposes.

Compensation Committee Interlocks and Insider Participation. The Board of Directors has determined that each member of the Compensation Committee satisfies the definition of "independent" as established under the NYSE corporate governance listing standards. No member of the committee is, or was during 2013, an officer or employee of the Company. Mr. Lapeyre is President and Chief Executive Officer and a significant equity owner of Laitram, L.L.C, which has had a business relationship with the Company since 1999. During 2013, the Company paid Laitram and its affiliates a total of approximately $4.2 million, which consisted of approximately $3.5 million for manufacturing services, $0.4 million for rent and other pass-through third party facilities charges, and $0.3 million for reimbursement of costs related to providing administrative and other back-office support services in connection with the Company's Louisiana marine operations. See "— Certain Transactions and Relationships" below. During 2013:

- No executive officer of the Company served as a member of the compensation committee of another entity, one of whose executive officers served as a director or on the Compensation Committee of the Company; and
- No executive officer of the Company served as a director of another entity, one of whose executive officers served on the Compensation Committee of the Company.

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

Equity Compensation Plan Information

(as of December 31, 2013)

The following table provides certain information regarding the Company's equity compensation plans under which equity securities are authorized for issuance, categorized by (i) the equity compensation plans previously approved by the Company's stockholders and (ii) the equity compensation plans not previously approved by the stockholders:

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Plan Category	Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights (a)	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights (b)	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column (a)) (c)
Equity Compensation Plans Approved by Stockholders			
Amended and Restated 1996 Non-Employee Director Stock Option Plan	95,000	$ 7.74	—
2000 Long-Term Incentive Plan	2,500	$ 9.01	—
2003 Stock Option Plan	40,000	$ 13.00	—
2004 Long-Term Incentive Plan (“2004 LTIP”)	7,855,625	$ 6.68	1,291,453
2013 Long-Term Incentive Plan (“2013 LTIP”)	—	—	3,730,000
2010 Employee Stock Purchase Plan	—	—	1,120,442
Subtotal	7,993,125		6,141,895
Equity Compensation Plans Not Approved by Stockholders			
ARAM Systems Employee Inducement Stock Option Program	113,000	$ 14.10	—
Concept Systems Employment Inducement Stock Option Program	4,000	$ 6.42	—
GX Technology Corporation Employment Inducement Stock Option Program	148,375	$ 7.09	—
Subtotal	265,375		—
Total	8,258,500		6,141,895

Following are brief descriptions of the material terms of each equity compensation plan that was not approved by the Company’s stockholders:

ION Geophysical Corporation — ARAM Systems Employee Inducement Stock Option Program. In connection with the Company’s acquisition of all of the capital stock of ARAM Systems, Ltd and its affiliates in September 2008, the Company entered into employment inducement stock option agreements with 48 key employees of ARAM as material inducements to their joining the Company. The terms of these stock options are for 10 years, and the options become exercisable in four equal installments each year with respect to 25% of the shares each on the first, second, third and fourth consecutive anniversary dates of the date of grant. The options may be sooner exercised upon the occurrence of a “change of control” of the Company. The number of shares of common stock covered by each option is subject to adjustment to prevent dilution resulting from stock dividends, stock splits, recapitalizations or similar transactions.

ION Geophysical Corporation — Concept Systems Employment Inducement Stock Option Program. In connection with the Company’s acquisition of the share capital of Concept Systems Holding Limited in February 2004, the Company entered into employment inducement stock option agreements with 12 key employees of Concept as material inducements to their joining the Company. The terms of these stock options are for 10 years, and the options became exercisable in four equal installments each year with respect to 25% of the shares on the first, second, third and fourth consecutive anniversary dates of the date of grant. The number of shares of common stock covered by each option is subject to adjustment to prevent dilution resulting from stock dividends, stock splits, recapitalizations or similar transactions.

ION Geophysical Corporation — GX Technology Corporation Employment Inducement Stock Option Program. In connection with the Company’s acquisition of all of the capital stock of GX Technology Corporation in June 2004, the Company entered into employment inducement stock option agreements with 29 key employees of GXT as material

inducements to their joining the Company. The terms of these stock options are for 10 years, and the options became exercisable in four equal installments each year with respect to 25% of the shares each on the first, second, third and fourth consecutive anniversary dates of the date of grant. The number of shares of common stock covered by each option is subject to adjustment to prevent dilution resulting from stock dividends, stock splits, recapitalizations or similar transactions.

A description of the Company's Stock Appreciation Rights Plan has not been provided in this sub-section because awards of SARs made under that plan may be settled only in cash.

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OWNERSHIP OF EQUITY SECURITIES OF ION

Except as otherwise set forth below, the following table sets forth information as of February 15, 2014, with respect to the number of shares of common stock owned by (i) each person known by the Company to be a beneficial owner of more than 5% of the Company's common stock, (ii) each of the Company's directors, (iii) each of the Company's executive officers named in the 2013 Summary Compensation Table included in this Annual Report on Form 10-K and (iv) all of the directors and executive officers as a group. Except where information was otherwise known by it, the Company has relied solely upon filings of Schedules 13D and 13G to determine the number of shares of common stock owned by each person known to the Company to be the beneficial owner of more than 5% of its common stock as of such date.

Name of Owner	Common Stock(1)	Rights to Acquire(2)	Restricted Stock(3)	Percent of Common Stock(4)	
Invesco Ltd.(5)	31,667,181	—	—	19.4	%
BGP Inc., China National Petroleum Corporation(6)	23,789,536	—	—	14.5	%
BlackRock, Inc.(7)	12,698,946	—	—	7.8	%
St. Denis J. Villere & Company, L.L.C.(8)	10,608,519	—	—	6.4	%
James M. Lapeyre, Jr.(9)	10,250,538	50,000	—	6.3	%
Wells Fargo & Company(10)	8,304,252	—	—	5.1	%
Laitram, L.L.C.(11)	7,605,345	—	—	4.6	%
David H. Barr	69,000	—	—	*	
R. Brian Hanson	20,622	316,250	142,561	*	
Hao Huimin	47,600	—	—	*	
Michael C. Jennings	69,000	—	—	*	
Franklin Myers	97,000	25,000	—	*	
S. James Nelson, Jr.	89,000	70,000	—	*	
John N. Seitz	118,895	50,000	—	*	
Christopher T. Usher	11,337	12,500	53,332	*	
Ken Williamson	68,517	313,000	35,000	*	
Gregory J. Heinlein(12)	16,159	92,250	27,898	*	
Colin T. Hulme	8,766	20,000	34,998	*	
All directors and executive officers as a group (15 Persons)	10,974,528	1,113,800	346,587	7.5	%

* Less than 1%

(1) Represents shares for which the named person (a) has sole voting and investment power or (b) has shared voting and investment power. Excluded are shares that (i) are unvested restricted stock holdings or (ii) may be acquired through stock option exercises.

(2) Represents shares of common stock that may be acquired upon the exercise of stock options held by the Company's officers and directors that are currently exercisable or will be exercisable on or before April 16, 2014.

(3) Represents unvested shares subject to a vesting schedule, forfeiture risk and other restrictions. Although these shares are subject to risk of forfeiture, the holder has the right to vote the unvested shares unless and until they are forfeited.

(4) Assumes shares subject to outstanding stock options that such person has rights to acquire upon exercise, presently and on or before April 16, 2014, are outstanding.

(5) The address for Invesco Ltd. is 1555 Peachtree Street NE, Atlanta, Georgia, 30309.

(6) The address for BGP Inc., China National Petroleum Corporation is No. 189 Fanyang Middle Road, ZhuoZhou City, HeBei Province 072750 P.R. China.

(7)

The address for BlackRock, Inc. is 40 East 52nd Street, New York, New York 10022. Blackrock, Inc. reported that it has sole voting power with respect to 12,240,678 shares and sole dispositive power with respect to 12,698,946 shares.

(8) The address for St. Denis J. Villere & Company L.L.C. is 601 Poydras Street, Suite 1808, New Orleans, Louisiana 70130. St. Denis J. Villere & Company L.L.C. reported that it has sole voting and dispositive power with respect to 3,988,284 shares and shared voting and dispositive power with respect to 6,620,235 shares.

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(9) These shares of common stock include 1,100,580 shares that Mr. Lapeyre holds as a custodian or trustee for the benefit of his children, 7,605,345 shares owned by Laitram, and 10,500 shares that Mr. Lapeyre holds as a co-trustee with his wife for the benefit of his children, in all of which Mr. Lapeyre disclaims any beneficial interest. Please read note 11 below. Mr. Lapeyre has sole voting power over only 1,534,113 of these shares of common stock.

(10) Wells Fargo & Company filed its Schedule 13G with the SEC on behalf of itself and the following subsidiaries: Wells Capital Management Incorporated, Wells Fargo Advisors, LLC, Wells Fargo Advisors Financial Network, LLC, and Wells Fargo Funds Management, LLC. The address for Wells Fargo & Company is 420 Montgomery Street, San Francisco, California 94104. Wells Fargo & Company reported that it has sole voting and dispositive power with respect to 2 shares, shared voting power with respect to 8,292,010 shares, and shared dispositive power with respect to 8,304,250 shares.

(11) The address for Laitram, L.L.C. is 220 Laitram Lane, Harahan, Louisiana 70123. Mr. Lapeyre is the President and Chief Executive Officer of Laitram. Please read note 9 above. Mr. Lapeyre disclaims beneficial ownership of any shares held by Laitram.

(12) These shares of common stock include 1,000 shares owned by Mr. Heinlein's wife, in which Mr. Heinlein disclaims any beneficial interest.

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

Certain Transactions and Relationships

The Board of Directors has adopted a written policy and procedures to be followed prior to any transaction, arrangement or relationship, or series of similar transactions, arrangements or relationships, including any indebtedness or guarantee of indebtedness, between the Company and a “Related Party” where the aggregate amount involved is expected to exceed $120,000 in any calendar year. Under the policy, “Related Party” includes (a) any person who is or was an executive officer, director or nominee for election as a director (since the beginning of the last fiscal year); (b) any person or group who is a greater-than-5% beneficial owner of the Company’s voting securities; or (c) any immediate family member of any of the foregoing, which means any child, stepchild, parent, stepparent, spouse, sibling, mother-in-law, father-in-law, son-in-law, daughter-in-law, brother-in-law, sister-in-law, and anyone residing in the home of an executive officer, director or nominee for election as a director (other than a tenant or employee). Under the policy, the Governance Committee of the Board is responsible for reviewing the material facts of any Related Party transaction and approving or ratifying the transaction. In making its determination to approve or ratify, the Governance Committee is required to consider such factors as (i) the extent of the Related Party’s interest in the transaction, (ii) if applicable, the availability of other sources of comparable products or services, (iii) whether the terms of the Related Party transaction are no less favorable than terms generally available in unaffiliated transactions under like circumstances, (iv) the benefit to the Company and (v) the aggregate value of the Related Party transaction.

Mr. Lapeyre is the President and Chief Executive Officer and a significant equity owner of Laitram, L.L.C. and has served as President of Laitram and its predecessors since 1989. Laitram is a privately-owned, New Orleans-based manufacturer of food processing equipment and modular conveyor belts. Mr. Lapeyre and Laitram together owned approximately 6.3% of the Company’s outstanding common stock as of February 15, 2014.

The Company acquired DigiCourse, Inc., the Company’s marine positioning products business, from Laitram in 1998. In connection with that acquisition, the Company entered into a Continued Services Agreement with Laitram under which Laitram agreed to provide the Company certain bookkeeping, software, manufacturing, and maintenance services. Manufacturing services consist primarily of machining of parts for the Company’s marine positioning systems. The term of this agreement expired in September 2001 but the Company continues to operate under its terms. In addition, from time to time, when the Company has requested, the legal staff of Laitram has advised the Company on certain intellectual property matters with regard to marine positioning systems. Under an amended lease of commercial property dated February 1, 2006, between Lapeyre Properties, L.L.C. (an affiliate of Laitram) and the Company, the Company has leased certain office and warehouse space from Lapeyre Properties through January 2014, with the right to terminate the lease sooner upon 12 months’ notice. During 2013, the Company paid Laitram and its affiliates a total of approximately $4.2 million, which consisted of approximately $3.5 million for manufacturing

services, $0.4 million for rent and other pass-through third party facilities charges, and $0.3 million for reimbursement for costs related to providing administrative and other back-office support services in connection with the Company's Louisiana marine operations. In the opinion of the Company's management, the terms of these services are fair and reasonable and as favorable to the Company as those that could have been obtained from unrelated third parties at the time of their performance.

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Mr. Hao is Chief Geophysicist of BGP. BGP has been a customer of the Company's products and services for many years. For the Company's fiscal years ended December 31, 2013 and 2012, BGP accounted for approximately 1.5% and 2.6% of the Company's consolidated net sales, respectively. During 2013, the Company recorded revenues from sales to BGP of approximately $8.0 million. Trade receivables due from BGP at December 31, 2013 were $1.5 million.

In March 2010, prior to Mr. Hao being appointed to the Board, the Company entered into certain transactions with BGP that resulted in the commercial relationships between the Company and BGP as described below:

- The Company issued and sold 23,789,536 shares of its common stock to BGP for an effective purchase price of $2.80 per share pursuant to (i) a Stock Purchase Agreement the Company entered into with BGP and (ii) the conversion of the principal balance of indebtedness outstanding under a Convertible Promissory Note dated as of October 23, 2009. As of February 15, 2014, BGP held beneficial ownership of approximately 14.5% of the Company's outstanding shares of common stock. The shares of common stock acquired by BGP are subject to the terms and conditions of an Investor Rights Agreement that the Company entered into with BGP in connection with its purchase of the shares. Under the Investor Rights Agreement, for so long as BGP owns as least 10% of the Company's outstanding shares of common stock, BGP will have the right to nominate one director to serve on the Company's Board. The appointment of Mr. Hao to the Company's Board was made pursuant to this agreement. The Investor Rights Agreement also provides that whenever the Company may issue shares of its common stock or other securities convertible into, exercisable or exchangeable for its common stock, BGP will have certain pre-emptive rights to subscribe for a number of such shares or other securities as may be necessary to retain its proportionate ownership of the Company's common stock that would exist before such issuance. These pre-emptive rights are subject to usual and customary exceptions, such as issuances of securities as equity compensation to the Company's directors, employees and consultants, under employee stock purchase plans and under the Company's currently outstanding convertible and exercisable securities.
- The Company formed the INOVA Geophysical joint venture with BGP, owned 49% by the Company and 51% by BGP, to design, develop, manufacture and sell land-based seismic data acquisition equipment for the petroleum industry. Under the terms of the joint venture transaction, INOVA Geophysical was initially formed as a wholly-owned direct subsidiary of the Company, and BGP acquired its interest in the joint venture by paying the Company aggregate consideration of (i) $108.5 million in cash and (ii) 49% of certain assets owned by BGP relating to the business of the joint venture. In addition, INOVA Geophysical provided a bank stand-by letter of credit as credit support for the Company's obligations under the Company's commercial bank revolving and term loans.

Independence of Directors

In determining independence, each year the Board determines whether directors have any "material relationship" with the Company. When assessing the "materiality" of a director's relationship with the Company, the Board considers all relevant facts and circumstances, not merely from the director's standpoint, but from that of the persons or organizations with which the director has an affiliation, and the frequency or regularity of the services, whether the services are being carried out at arm's length in the ordinary course of business and whether the services are being provided substantially on the same terms to the Company as those prevailing at the time from unrelated parties for comparable transactions. Material relationships can include commercial, banking, industrial, consulting, legal, accounting, charitable and familial relationships. Factors that the Board may consider when determining independence for purposes of this determination include (1) not being a current employee of the Company or having been employed by the Company within the last three years; (2) not having an immediate family member who is, or who has been within the last three years, an executive officer of the Company; (3) not personally receiving or having an immediate family member who has received, during any 12-month period within the last three years, more than $120,000 per year in direct compensation from the Company other than director and committee fees; (4) not being employed or having an immediate family member employed within the last three years as an executive officer of another company of which any current executive officer of the Company serves or has served, at the same time, on that company's compensation committee; (5) not being an employee of or a current partner of, or having an immediate family member who is a current partner of, a firm that is the Company's internal or external auditor; (6) not having an immediate family member who is a current employee of such an audit firm who personally works on the Company's audit; (7) not being or having an immediate family member who was within the last three years a partner or employee of such an

audit firm and who personally worked on the Company's audit within that time; (8) not being a current employee, or having an immediate family member who is a current executive officer, of a company that has made payments to, or received payments from, the Company for property or services in an amount that, in any of the last three fiscal years, exceeds the greater of $1 million or 2% of the other company's consolidated gross revenues; or (9) not being an executive officer of a charitable organization to which, within the preceding three years, the Company has made charitable contributions in any single fiscal year that has exceeded the greater of $1 million or 2% of such organization's consolidated gross revenues.

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The Board has affirmatively determined that, with the exception of R. Brian Hanson, who is the Company's President and Chief Executive Officer and an employee of the Company, no director has a material relationship with the Company within the meaning of the NYSE's listing standards, and that each of the Company's directors (other than Mr. Hanson) is independent from management and from the Company's independent registered public accounting firm, as required by NYSE listing standard rules regarding director independence.

The Company's Chairman and Lead Independent Director, Mr. Lapeyre, is an executive officer and significant shareholder of Laitram, L.L.C., a company with which the Company has ongoing contractual relationships, and Mr. Lapeyre and Laitram together owned approximately 6.3% of the Company's outstanding common stock as of February 15, 2014. The Board has determined that these contractual relationships have not interfered with Mr. Lapeyre's demonstrated independence from the Company's management, and that the services performed by Laitram for the Company are being provided at arm's length in the ordinary course of business and substantially on the same terms to the Company as those prevailing at the time from unrelated parties for comparable transactions. In addition, the services provided by Laitram to the Company resulted in payments by the Company to Laitram in an amount less than 2% of Laitram's 2013 consolidated gross revenues. As a result of these factors, the Board has determined that Mr. Lapeyre, along with each of the Company's other non-management directors, is independent within the meaning of the NYSE's director independence standards. For an explanation of the contractual relationship between Laitram and ION, see "— Certain Transactions and Relationships" above.

The Company's director, Mr. Hao, is employed as Chief Geophysicist of BGP. For an explanation of the relationships between BGP and the Company, see "— Certain Transactions and Relationships" above.

Item 14. Principal Accounting Fees and Services

PRINCIPAL AUDITOR FEES AND SERVICES

In connection with the audit of the 2013 financial statements, the Company entered into an engagement agreement with Ernst & Young LLP that sets forth the terms by which Ernst & Young LLP would perform audit services for the Company. The following two tables show the fees billed to the Company or accrued by the Company for the audit and other services provided by Ernst & Young LLP for 2013 and 2012:

	2013	2012
Audit Fees(a)	$2,558,000	$1,744,000
Audit-Related Fees(b)	86,000	252,000
Tax Fees(c)	46,000	—
All Other Fees	—	—
Total	$2,690,000	$1,996,000

(a) Audit fees consist primarily of the audit and quarterly reviews of the consolidated financial statements, the audit of the effectiveness of internal control over financial reporting, audits of subsidiaries, statutory audits of subsidiaries required by governmental or regulatory bodies, attestation services required by statute or regulation, comfort letters, consents, assistance with and review of documents filed with the SEC, work performed by tax professionals in connection with the audit and quarterly reviews, and accounting and financial reporting consultations and research work necessary to comply with generally accepted auditing standards.

(b) Audit-related fees relate primarily to due diligence services. Also included are licensing fees related to accounting research software.

(c) Tax fees consist of financial and tax due diligence services.

The Audit Committee Charter provides that all audit services and non-audit services must be approved by the committee or a member of the committee. The Audit Committee has delegated to the Chairman of the committee the authority to pre-approve audit, audit-related and non-audit services not prohibited by law to be performed by the Company's independent auditors and associated fees, so long as (i) the estimate of such fees does not exceed $50,000, (ii) the Chairman reports any decisions to pre-approve those services and fees to the full Audit Committee at a future meeting and (iii) the term of any specific pre-approval given by the Chairman does not exceed 12 months from the date of pre-approval.

All non-audit services were reviewed with the Audit Committee or the Chairman, which concluded that the provision of such services by Ernst & Young LLP was compatible with the maintenance of such firm's independence in the conduct of its auditing functions.

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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.

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**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	—	Agreement dated as of February 15, 2005, between Input/Output, Inc. and Fletcher International, Ltd., filed on February 17, 2005 as Exhibit 10.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.
10.25	—	First Amendment to Agreement, dated as of May 6, 2005, between the Company and Fletcher International, Ltd., filed on May 10, 2005 as Exhibit 10.2 to the Company's Current Report on Form 8-K, and incorporated herein by reference.
**10.26	—	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.
**10.27	—	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.
**10.28	—	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.
10.29	—	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.
10.30	—	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.
10.31	—	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.
10.32	—	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.
10.33	—	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.
10.34	—	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.
10.35	—	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.
10.36	—	Credit Agreement dated as of March 25, 2010, by and among ION Geophysical Corporation, ION International S.À R.L. and China Merchants Bank Co., Ltd., New York Branch, as administrative agent and lender, filed on March 31, 2010 as Exhibit 10.5 to the Company's Current Report on Form 8-K, and incorporated herein by reference.

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**10.37	—	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.
**10.38	—	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.
**10.39	—	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.
**10.40	—	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.
**10.41	—	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.
10.42	—	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.
10.43	—	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.
10.44	—	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.
*21.1	—	Subsidiaries of the Company.
*23.1	—	Consent of Ernst & Young LLP.
*24.1	—	The Power of Attorney is set forth on the signature page hereof.
*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, 2013 and 2012, (ii) Consolidated Statements of Operations for the years ended December 31, 2013, 2012 and 2011, (iii) Comprehensive Income (Loss) for the years ended December 31, 2013, 2012 and 2011, (iv) Consolidated Statements of Cash Flows for the years ended December 31, 2013, 2012 and 2011, (v) Consolidated Statements of Stockholders' Equity for the years ended December 31, 2013, 2012 and 2011, (vi) Notes to Consolidated Financial Statements and (vii) Schedule II – Valuation and Qualifying Accounts.

* Filed herewith.

** Management contract or compensatory plan or arrangement.

(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 24, 2014.

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 David L. Roland 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, 2013, 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 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 24, 2014
/S/ GREGORY J. HEINLEIN Gregory J. Heinlein	Senior Vice President and Chief Financial Officer (Principal Financial Officer)	February 24, 2014
/S/ SCOTT SCHWAUSCH Scott Schwausch	Vice President and Corporate Controller (Principal Accounting Officer)	February 24, 2014
/S/ JAMES M. LAPEYRE, JR. James M. Lapeyre, Jr.	Chairman of the Board of Directors and Director	February 24, 2014
/S/ DAVID H. BARR David H. Barr	Director	February 24, 2014
/S/ HAO HUIMIN Hao Huimin	Director	February 24, 2014

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Name	Capacities	Date
/S/ MICHAEL C. JENNINGS Michael C. Jennings	Director	February 24, 2014
/S/ FRANKLIN MYERS Franklin Myers	Director	February 24, 2014
/S/ S. JAMES NELSON, JR. S. James Nelson, Jr.	Director	February 24, 2014
/S/ JOHN N. SEITZ John N. Seitz	Director	February 24, 2014

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ION GEOPHYSICAL CORPORATION AND SUBSIDIARIES
INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

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Report of Independent Registered Public Accounting Firm

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

We have audited the accompanying consolidated balance sheets of ION Geophysical Corporation and subsidiaries as of December 31, 2013 and 2012, and the related consolidated statements of operations, comprehensive income (loss), cash flows, and stockholders' equity for each of the three years in the period ended December 31, 2013. Our audits also included the financial statement schedule listed in the Index at Item 15(a). These 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 audits.

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 financial statements referred to above present fairly, in all material respects, the consolidated financial position of ION Geophysical Corporation and subsidiaries at December 31, 2013 and 2012, and the consolidated results of their operations and their cash flows for each of the three years in the period 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 also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), ION Geophysical Corporation and subsidiaries' internal control over financial reporting as of December 31, 2013, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (1992 framework) and our report dated February 24, 2014 expressed an unqualified opinion thereon.

/s/ Ernst & Young LLP

Houston, Texas

February 24, 2014

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ION GEOPHYSICAL CORPORATION AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

	December 31,	
	2013	2012
	(In thousands, except share data)	
ASSETS		
Current assets:		
Cash and cash equivalents	$148,056	$60,971
Accounts receivable, net	149,448	127,136
Unbilled receivables	49,468	89,784
Inventories	57,173	70,675
Prepaid expenses and other current assets	24,772	25,605
Total current assets	428,917	374,171
Deferred income tax asset	14,650	28,414
Property, plant, equipment and seismic rental equipment, net	46,684	33,772
Multi-client data library, net	238,784	230,315
Equity method investments	53,865	73,925
Goodwill	55,876	55,349
Intangible assets, net	11,247	14,841
Other assets	14,648	9,796
Total assets	$864,671	$820,583
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Current maturities of long-term debt	$5,906	$3,496
Accounts payable	22,654	28,688
Accrued expenses	84,358	124,095
Accrued multi-client data library royalties	46,460	26,300
Deferred revenue	20,682	26,899
Total current liabilities	180,060	209,478
Long-term debt, net of current maturities	214,246	101,832
Other long-term liabilities	210,602	8,131
Total liabilities	604,908	319,441
Redeemable noncontrolling interests	1,878	2,123
Commitments and contingencies		
Stockholders' equity:		
Cumulative convertible preferred stock	—	27,000
Common stock, $0.01 par value; authorized 200,000,000 shares; outstanding 163,737,757 and 156,356,949 shares at December 31, 2013 and 2012, respectively, net of treasury stock	1,637	1,564
Additional paid-in capital	879,969	848,669
Accumulated deficit	(606,157)	(360,297)
Accumulated other comprehensive loss	(11,138)	(11,886)
Treasury stock, at cost, 849,539 shares at both December 31, 2013 and 2012	(6,565)	(6,565)
Total stockholders' equity	257,746	498,485
Noncontrolling interests	139	534
Total equity	257,885	499,019
Total liabilities and equity	$864,671	$820,583

See accompanying Notes to Consolidated Financial Statements.

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ION GEOPHYSICAL CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS

	Years Ended December 31,		
	2013	2012	2011
	(In thousands, except per share data)		
Service revenues	$391,317	$354,583	$265,586
Product revenues	157,850	171,734	189,035
Total net revenues	549,167	526,317	454,621
Cost of services	277,508	219,324	177,956
Cost of products	112,346	91,192	103,220
Gross profit	159,313	215,801	173,445
Operating expenses:			
Research, development and engineering	37,742	34,080	24,569
Marketing and sales	38,583	35,240	31,269
General, administrative and other operating expenses	66,592	71,954	50,812
Total operating expenses	142,917	141,274	106,650
Income from operations	16,396	74,527	66,795
Interest expense, net	(12,344)	(5,265)	(5,784)
Equity in earnings (losses) of investments	(42,320)	297	(22,862)
Other income (expense)	(182,530)	17,124	(3,447)
Income (loss) before income taxes	(220,798)	86,683	34,702
Income tax expense	25,720	23,857	10,136
Net income (loss)	(246,518)	62,826	24,566
Net loss attributable to noncontrolling interests	658	489	208
Net income (loss) attributable to ION	(245,860)	63,315	24,774
Preferred stock dividends	1,014	1,352	1,352
Conversion payment of preferred stock	5,000	—	—
Net income (loss) applicable to common shares	$(251,874)	$61,963	$23,422
Net income (loss) per share:			
Basic	$(1.59)	$0.40	$0.15
Diluted	$(1.59)	$0.39	$0.15
Weighted average number of common shares outstanding:			
Basic	158,506	155,801	154,811
Diluted	158,506	162,765	156,090

See accompanying Notes to Consolidated Financial Statements.

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ION GEOPHYSICAL CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)

	Years Ended December 31,		
	2013	2012	2011
	(In thousands)		
Net income (loss)	$(246,518)	$62,826	$24,566
Other comprehensive income (loss), net of taxes, as appropriate:			
Foreign currency translation adjustments	713	2,756	(28)
Equity interest in investee's other comprehensive income (loss)	(373)	1,003	315
Unrealized gain (loss) on available-for-sale securities	277	425	(730)
Other changes in other comprehensive income (loss)	131	123	(220)
Total other comprehensive income (loss), net of taxes	748	4,307	(663)
Comprehensive net income (loss)	(245,770)	67,133	23,903
Comprehensive loss attributable to noncontrolling interest	658	489	208
Comprehensive net income (loss) attributable to ION	$(245,112)	$67,622	$24,111

See accompanying Notes to Consolidated Financial Statements.

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ION GEOPHYSICAL CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Years Ended December 31,		
	2013	2012	2011
	(In thousands)		
Cash flows from operating activities:			
Net income (loss)	$(246,518)	$62,826	$24,566
Adjustments to reconcile net income (loss) to net cash provided by operating activities:			
Depreciation and amortization (other than multi-client library)	18,158	16,202	13,917
Amortization of multi-client data library	86,716	89,080	77,317
Stock-based compensation expense	7,476	6,598	6,344
Equity in (earnings) losses of investments	42,320	(297)	22,862
Gain on sale of cost method investment	(3,591)	—	—
Accrual for loss contingency related to legal proceedings	183,327	10,000	—
Write-down of multi-client data library projects	5,461	—	—
Write-down of receivables from OceanGeo	9,157	—	—
Write-down of excess and obsolete inventory	21,197	1,326	567
Write-down of marine equipment	—	5,928	—
Write-down of investments	—	556	1,312
Deferred income taxes	4,844	3,686	(8,131)
Excess tax benefit from stock-based compensation	(276)	(193)	(3,294)
Change in operating assets and liabilities:			
Accounts receivable	(27,571)	4,006	(52,955)
Unbilled receivables	40,211	(64,156)	44,962
Inventories	(8,906)	(7,039)	(6,641)
Accounts payable, accrued expenses and accrued royalties	8,482	61,873	(7,546)
Deferred revenue	(6,253)	(6,957)	15,957
Other assets and liabilities	13,353	(14,358)	747
Net cash provided by operating activities	147,587	169,081	129,984
Cash flows from investing activities:			
Investment in multi-client data library	(114,582)	(145,627)	(143,782)
Purchase of property, plant, equipment and seismic rental equipment	(16,914)	(16,650)	(11,060)
Net advances to INOVA Geophysical	(5,000)	—	—
Investment in and advances to OceanGeo B.V. (formerly named GeoRXT B.V.)	(24,755)	—	—
Proceeds from sale of a cost method investment	4,150	—	—
Maturity (net purchases) of short-term investments	—	20,000	(20,000)
Investment in convertible notes	(2,000)	(2,000)	(6,500)
Other investing activities	128	—	(280)
Net cash used in investing activities	(158,973)	(144,277)	(181,622)
Cash flows from financing activities:			
Proceeds from issuance of notes	175,000	—	—
Payments under revolving line of credit	(97,250)	(51,000)	—
Borrowings under revolving line of credit	35,000	148,250	—
Payments on notes payable and long-term debt	(4,361)	(101,702)	(6,145)
Cost associated with issuance of notes	(6,773)	—	—
Payment of preferred dividends	(1,014)	(1,352)	(1,352)

Conversion payment of preferred stock	(5,000)	—	—
Proceeds from employee stock purchases and exercise of stock options	2,527	807	13,105
Excess tax benefit from stock-based compensation	276	193	3,294
Contribution from noncontrolling interests	—	212	961
Other financing activities	297	(1,862)	(59)
Net cash provided by (used in) financing activities	98,702	(6,454)	9,804
Effect of change in foreign currency exchange rates on cash and cash equivalents	(231)	219	(183)
Net increase (decrease) in cash and cash equivalents	87,085	18,569	(42,017)
Cash and cash equivalents at beginning of period	60,971	42,402	84,419
Cash and cash equivalents at end of period	$148,056	$60,971	$42,402

See accompanying Notes 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		Common Stock		Additional Paid-In Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Treasury Stock	Noncontrolling Interests	Total Equity
	Shares	Amount	Shares	Amount						
Balance at January 1, 2011	27,000	$27,000	152,870,679	$1,529	$822,399	$(448,386)	$(15,530)	$(6,565)	$—	$380,447
Net income (a)	—	—	—	—	—	24,774	—	—	(123)	24,651
Translation adjustment	—	—	—	—	—	—	(28)	—	(32)	(60)
Change in fair value of effective cash flow hedges (net of taxes)	—	—	—	—	—	—	(220)	—	—	(220)
Equity interest in INOVA Geophysical's other comprehensive income	—	—	—	—	—	—	315	—	—	315
Unrealized net income (loss) on available-for-sale securities	—	—	—	—	—	—	(730)	—	—	(730)
Preferred stock dividends	—	—	—	—	(1,352)	—	—	—	—	(1,352)
Stock-based compensation expense	—	—	—	—	6,344	—	—	—	—	6,344
Exercise of stock options	—	—	2,145,792	21	13,084	—	—	—	—	13,105
Vesting of restricted stock units/awards	—	—	449,231	5	(5)	—	—	—	—	—
Restricted stock cancelled for employee minimum income taxes	—	—	(93,488)	(1)	(682)	—	—	—	—	(683)
Issuance of stock for the ESPP	—	—	107,562	1	623	—	—	—	—	624
Tax benefits from stock-based compensation	—	—	—	—	2,860	—	—	—	—	2,860
Contribution from noncontrolling interests	—	—	—	—	—	—	—	—	511	511
	27,000	27,000	155,479,776	1,555	843,271	(423,612)	(16,193)	(6,565)	356	425,812

Balance at December 31, 2011										
Net income (a)	—	—	—	—	—	63,315	—	—	4	63,319
Translation adjustment	—	—	—	—	—	—	2,756	—	(38)	2,718
Change in fair value of effective cash flow hedges (net of taxes)	—	—	—	—	—	—	123	—	—	123
Equity interest in INOVA Geophysical's other comprehensive income	—	—	—	—	—	—	1,003	—	—	1,003
Unrealized net income (loss) on available-for-sale securities	—	—	—	—	—	—	425	—	—	425
Preferred stock dividends	—	—	—	—	(1,352)	—	—	—	—	(1,352)
Stock-based compensation expense	—	—	—	—	6,598	—	—	—	—	6,598
Exercise of stock options	—	—	194,410	2	805	—	—	—	—	807
Vesting of restricted stock units/awards	—	—	764,704	8	(8)	—	—	—	—	—
Restricted stock cancelled for employee minimum income taxes	—	—	(209,068)	(2)	(1,266)	—	—	—	—	(1,268)
Issuance of stock for the ESPP	—	—	127,127	1	758	—	—	—	—	759
Tax benefits from stock-based compensation	—	—	—	—	(137)	—	—	—	—	(137)
Contribution from noncontrolling interests	—	—	—	—	—	—	—	—	212	212
Balance at December 31, 2012	27,000	27,000	156,356,949	1,564	848,669	(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	—	—	—	—	—	—	131	—	—	131

cash flow hedges (net of taxes)										
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)	6,065,075	61	21,939	—	—	—	—	(5,000)
Stock-based compensation expense	—	—	—	—	7,476	—	—	—	—	7,476
Exercise of stock options	—	—	707,575	7	2,520	—	—	—	—	2,527
Vesting of restricted stock units/awards	—	—	578,369	5	(5)	—	—	—	—	—
Restricted stock cancelled for employee minimum income taxes	—	—	(115,080)	(1)	(482)	—	—	—	—	(483)
Issuance of stock for the ESPP	—	—	144,869	1	779	—	—	—	—	780
Tax benefits from stock-based compensation	—	—	—	—	87	—	—	—	—	87
Balance at December 31, 2013	—	$—	163,737,757	$1,637	$879,969	$(606,157)	$(11,138)	$(6,565)	$139	$257,885

(a) Net income attributable to noncontrolling interests for 2013, 2012 and 2011 excludes $(0.3) million, $(0.5) million and $(0.1) million, respectively, related to the redeemable noncontrolling interests, which is reported in the mezzanine equity section of the Consolidated Balance Sheet.

See accompanying Notes to Consolidated Financial Statements.

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ION GEOPHYSICAL CORPORATION AND SUBSIDIARIES
NOTES 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. At December 31, 2013 and 2012, there was $0.7 million and $1.5 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 and imaging 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 2013, 2012 and 2011, the Company capitalized, as part of its multi-client data library, $2.1 million, $3.8 million and $2.4 million, respectively, of direct internal processing costs. At December 31, 2013 and 2012, multi-client data library costs and accumulated amortization consisted of the following (in thousands):

	December 31,	
	2013	2012
Gross costs of multi-client data creation	$786,061	$690,876
Less accumulated amortization	(547,277)	(460,561)
Total	$238,784	$230,315

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. There were no significant impairment charges associated with the Company's multi-client data library during 2012 and 2011. 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.

Cost Method Investments

Certain of the Company’s investments are accounted for under the cost method. The Company’s cost method investments that have quoted prices from active markets are classified as “available-for-sale” and revalued at each reporting date, with all unrealized gains or losses, net of taxes, included in accumulated other comprehensive income (outside of earnings) until realized or until such time that a decline in fair value below cost is deemed to be other-than-temporary. The Company’s cost method investments for which quoted market prices are not available are recorded at cost and reviewed periodically if there are events or changes in circumstances that may have a significant adverse effect on the fair value of the investments.

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Equity Method Investments

In accordance with ASC 810 “Consolidation,” the Company considered whether OceanGeo B.V. (formerly known as GeoRXT B.V.; “OceanGeo”) and INOVA Geophysical were variable interest entities and concluded that both entities are variable interest entities. The Company also concluded that it was not the primary beneficiary of either variable interest entity. As such, the Company did not consolidate either entity and continued to use the equity method of accounting for both entities through December 31, 2013. 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 accounts for its share of earnings in INOVA Geophysical on a one fiscal quarter lag basis and accounts for its interest in OceanGeo on a current basis. See further discussion regarding the Company’s equity method investment in INOVA Geophysical and OceanGeo at Note 3 “Equity Method Investments.”

Noncontrolling Interests

The Company has both redeemable and 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 income (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 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 five-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 Note 7 “Goodwill.”

The intangible assets, other than goodwill, relate to customer relationships and intellectual property rights. The Company amortizes it’s intellectual property rights over the estimated periods of benefit (ranging from 4 to 5 years). 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 Note 6 “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, accounts and unbilled receivables, accounts payable, accrued multi-client data library royalties, investment in one convertible note from a privately owned U.S.-based technology company 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 3 inputs, including an estimated interest rate reflecting current market conditions. The Company performs a fair value analysis with respect to its investment in the convertible notes using a market approach based upon Level 3 inputs, including the terms and likelihood of an investment event and the time to conversion or repayment.

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) acquisition systems and other seismic equipment within its Systems segment; and (iii) navigation, survey and quality control software systems within its Software segment. All revenues of the Solutions segment 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 persuasive evidence of an arrangement exists, the price is fixed or determinable, and collectibility is reasonably assured. Revenues from contract services performed on a day-rate 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 Company applies 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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Multiple-element Arrangements — When separate elements (such as an acquisition system, other seismic equipment and/or imaging 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”). The Company adopted this guidance as of January 1, 2010. Accordingly, the Company applied this guidance to transactions initiated or materially modified on or after January 1, 2010. The guidance does not apply to software sales accounted for under ASC 985-605. The Company also adopted, in the same period, guidance within ASC 985-605 that excludes from its scope revenue arrangements that include both tangible products and software elements, such that the tangible products contain both software and non-software components that function together to deliver the tangible product’s essential functionality.

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.

The Company believes this guidance principally impacts its Systems segment. A typical arrangement within the Systems segment involves the sale of various products of the Company’s acquisition systems and other seismic equipment. Products under these arrangements are often delivered to the customer within the same period, but in certain situations, depending upon product availability and the customer’s delivery requirements, the products could be delivered to the customer at different times. In these situations, the Company considers its products to be separate units of accounting provided the delivered product has value to the customer on a standalone basis. The Company considers a deliverable to have standalone value if the product is sold separately by the Company or another vendor or could be resold by the customer. Further, the Company’s revenue arrangements generally do not include a general right of return relative to the delivered products.

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 carry-forwards. 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 Note 11 “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 Income (Loss)

Comprehensive net income (loss) as shown in the Consolidated Statements of Comprehensive Income (Loss) and the balance in Accumulated Other Comprehensive Income (Loss) as shown in the Consolidated Balance Sheets as of December 31, 2013 and 2012, consist of foreign currency translation adjustments, equity interest in INOVA Geophysical’s accumulated other comprehensive income 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 Income (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 gains (losses) were $(1.1) million, $(1.9) million and $(1.7) million for 2013, 2012 and 2011, respectively.

Concentration of Foreign Sales Risk

The majority of the Company’s foreign sales are denominated in U.S. dollars. For 2013, 2012 and 2011, international sales comprised 73%, 69% and 66%, respectively, of total net revenues. Since 2008, global economic problems and uncertainties have generally increased in scope and nature. 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.

(2) Segment and Geographic Information

The Company evaluates and reviews its results based on three segments: Solutions, Systems and Software. The Company measures segment operating results based on income from operations. In addition, the Company has equity ownership interests in two joint ventures: INOVA Geophysical and OceanGeo. See Note 3 “Equity Method Investments” for the summarized financial information for INOVA Geophysical and OceanGeo.

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A summary of segment information is as follows (in thousands):

	Years Ended December 31,		
	2013	2012	2011
Net revenues:			
Solutions:			
New Venture	$154,578	$147,346	$98,335
Data Library	111,998	88,085	76,332
Total multi-client revenues	266,576	235,431	174,667
Data Processing	120,808	115,834	88,783
Total	$387,384	$351,265	$263,450
Systems:			
Towed Streamer	$66,991	$77,769	$111,453
Ocean Bottom	7,307	14,823	960
Other	48,134	39,404	40,591
Total	$122,432	$131,996	$153,004
Software:			
Software Systems	$35,418	$39,738	$36,031
Services	3,933	3,318	2,136
Total	$39,351	$43,056	$38,167
Total	$549,167	$526,317	$454,621
Gross profit:			
Solutions	$111,108	$132,950	$84,647
Systems	19,999	50,790	61,109
Software	28,206	32,061	27,689
Total	$159,313	$215,801	$173,445
Gross margin:			
Solutions	29 %	38 %	32 %
Systems	16 %	38 %	40 %
Software	72 %	74 %	73 %
Total	29 %	41 %	38 %
Income from operations:			
Solutions	$61,146	$88,589	$50,620
Systems	(9,957)	10,132	33,034
Software	23,602	28,129	24,463
Corporate and other	(58,395)	(52,323)	(41,322)
Income from operations	16,396	74,527	66,795
Interest expense, net	(12,344)	(5,265)	(5,784)
Equity in earnings (losses) of investments	(42,320)	297	(22,862)
Other income (expense)	(182,530)	17,124	(3,447)
Income (loss) before income taxes	$(220,798)	$86,683	$34,702

	Years Ended December 31,		
	2013	2012	2011
Depreciation and amortization (including multi-client data library):			
Solutions	$99,774	$98,342	$84,958
Systems	2,665	4,185	3,229
Software	699	776	1,116
Corporate and other	1,736	1,979	1,931
Total	$104,874	$105,282	$91,234

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	December 31, 2013	2012
Total assets:		
Solutions	$445,581	$438,663
Systems	139,074	156,484
Software	45,343	45,948
Corporate and other	234,673	179,488
Total	$864,671	$820,583

	December 31, 2013	2012
Total assets by geographic area:		
North America	$609,739	$533,035
Europe	76,601	91,101
Middle East	128,909	130,070
Latin America	33,375	51,692
Other	16,047	14,685
Total	$864,671	$820,583

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, and the investments in INOVA Geophysical and OceanGeo. 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,		
	2013	2012	2011
Europe	$198,977	$200,589	$160,230
North America	150,160	164,157	155,877
Middle East	63,157	37,471	28,227
Asia Pacific	52,672	55,028	78,777
Latin America	54,008	46,212	12,199
Africa	16,474	18,469	7,926
Commonwealth of Independent States	13,719	4,391	11,385
Total	$549,167	$526,317	$454,621

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.

(3) Equity Method Investments

The following table reflects the change in the Company’s equity method investments and note receivable from equity method investees during the year ended December 31, 2013 (in thousands):

	INOVA Geophysical	OceanGeo	Total
Investment at December 31, 2012	$73,925	$—	$73,925
Investment in equity	—	1,500	1,500
Investment in and advances to OceanGeo	—	23,255	23,255
Equity in losses of investments	(22,487)	(19,833)	(42,320)
Write-down of note receivable from OceanGeo	—	(2,122)	(2,122)
Equity interest in investees' other comprehensive income (loss)	(373)	—	(373)
Investments at December 31, 2013	$51,065	$2,800	$53,865

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OceanGeo

In February 2013, the Company purchased from Reservoir Exploration Technology ASA for $1.5 million its 30% interest in OceanGeo. OceanGeo is headquartered in Rio de Janeiro, Brazil, and specializes in seismic acquisition operations using ocean-bottom cables deployed from vessels leased by OceanGeo. The Company was originally granted an option, exercisable at any time on or before May 15, 2013, to increase its ownership percentage to 50%, which, if exercised, would have required the Company to make additional capital contributions to OceanGeo. Additionally, the Company provided OceanGeo with an $8.0 million working capital loan (the "Initial Working Capital Loan"), the repayment of which was guaranteed by the Company's majority joint venture partner in OceanGeo, Georadar Levantamentos Geofisicos S/A ("Georadar"). The stated maturity date of the loan was May 25, 2013. No repayments were made under the loan, and the full indebtedness under the loan remained outstanding as of December 31, 2013. In addition, in January 2013 the Company sold certain seismic equipment to OceanGeo, and Georadar guaranteed the payment of the equipment purchase price. As of December 31, 2013, OceanGeo owed $7.0 million to the Company for the equipment.

During the third quarter of 2013, OceanGeo's vessels and crew were idle because it had no contracts for seismic acquisition operations. The Company's share of losses in OceanGeo for the nine months ended September 30, 2013 was $7.4 million. The Company's share of losses reduced its equity method investment in OceanGeo to zero, and the Company continued to record its share of additional losses, reducing the carrying value of the Initial Working Capital Loan to $2.1 million at September 30, 2013. At September 30, 2013, the Company also evaluated the realizability of its remaining receivables and the Initial Working Capital Loan and concluded they were fully impaired because OceanGeo had no backlog of contracts for seismic acquisition operations at that time. As a result, the Company recorded a charge through general, administrative and other operating expenses of $9.2 million, resulting in no remaining carrying value of the receivables and the Initial Working Capital Loan at September 30, 2013.

In October 2013, the Company reached agreement with Georadar for the Company to have the option to increase its ownership percentage in OceanGeo to 70%, subject to certain conditions. To further assist OceanGeo in acquiring backlog, in October 2013 the Company also agreed to loan OceanGeo additional funds for working capital, subject to the Company's agreement on the necessity and purpose for each advance and certain other conditions, up to a maximum of $25.0 million. As of December 31, 2013, the Company had advanced an additional $15.3 million for working capital purposes (the "Additional Working Capital Loans").

During the fourth quarter of 2013, the Company increased its economic interest in OceanGeo to 70%, but did not acquire its 70% share ownership until January 2014 and therefore did not gain control of OceanGeo as a controlling shareholder until January 2014. However, the Company recorded equity losses of $12.5 million representing 70% of OceanGeo's total losses for the fourth quarter, reducing the carrying value of the Additional Working Capital Loans to $2.8 million at December 31, 2013. OceanGeo's vessels and crew remained idle until late December when it commenced seismic acquisition operations in Trinidad related to its recently awarded contract.

During the fourth quarter of 2013, the Company evaluated its agreement to have the option to increase its ownership in OceanGeo from 30% to 70% and concluded this was a reconsideration event under U.S. GAAP. As a result, the Company determined that it had a variable interest through its equity ownership in OceanGeo, but concluded it was not the primary beneficiary because it did not have the power to direct the activities that most significantly impact the variable interest entity's economic performance. As such, the Company did not consolidate OceanGeo as of December 31, 2013. The Company continued to use the equity method of accounting through December 31, 2013. The Company's maximum exposure to loss is limited to its investment which is represented by the financial statement carrying amount of its Additional Working Capital Loans of $2.8 million as of December 31, 2013. The Company has no obligation, implicit or explicit, to fund any expenses of OceanGeo.

Subsequent Event

On January 27, 2014, the Company obtained control of OceanGeo when it increased its ownership interest in OceanGeo from 30% to 70%. In connection with the increase in ownership, the Company converted into additional equity interest of OceanGeo all amounts owed to it under the Initial Working Capital Loan and approximately $3.0 million of the $7.0 million owed to the Company for the purchase of equipment by OceanGeo. OceanGeo will be managed through a Supervisory Board consisting of four members appointed by the Company and two members

appointed by Georadar. The guarantees from Georadar with regard to the loan and the equipment purchase also terminated.

Because the Company gained control of OceanGeo on January 27, 2014, the Company continued to record its share of OceanGeo's results using equity method accounting through January 27, 2014, and after that date the Company will consolidate OceanGeo's financial results and financial position with the Company's consolidated financial results and financial position.

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The following table reflects summarized financial information for OceanGeo, on a 100% basis, as of and for the year ended December 31, 2013 (in thousands):

	December 31, 2013
Current assets	$5,233
Non-current assets	27,101
Current liabilities[(1)]	55,216
Non-current liabilities	198
Equity	$(23,080)

(1) Includes payables to, notes from and advances from ION and Georadar that existed at December 31, 2013, but were converted to equity in January 2014. The payables to and notes from ION that were converted to equity totaled $10.9 million. The payables to and notes from Georadar that were converted to equity totaled $10.0 million. This balance also includes $15.3 million of advances made by ION to OceanGeo during the fourth quarter of 2013.

	Period from March 1, to December 31, 2013
Total net revenues	$19,668
Gross profit (loss)	$(22,918)
Income (loss) from operations	$(40,443)
Net income (loss)	$(42,391)

INOVA Geophysical

The Company owns a 49% interest in a land seismic equipment business with BGP. BGP is a subsidiary of China National Petroleum Corporation (“CNPC”) and is a leading global geophysical services contracting company. The joint venture company, organized under the laws of the People’s Republic of China, is named INOVA Geophysical Equipment Limited (“INOVA Geophysical”). BGP owns the remaining 51% interest in INOVA Geophysical. INOVA Geophysical is managed through a Board of Directors consisting of four members appointed by BGP and three members appointed by the Company. The Company accounts for its share of earnings in INOVA Geophysical on a one fiscal quarter lag basis. Thus, the Company’s share of INOVA Geophysical’s results for the period from October 1, 2012 to September 30, 2013 (“Fiscal 2013”), is included in the Company’s financial results for its fiscal year ended December 31, 2013, the Company’s share of INOVA Geophysical’s results for the period from October 1, 2011 to September 30, 2012 (“Fiscal 2012”), is included in the Company’s financial results for its fiscal year ended December 31, 2012, and the Company’s share of INOVA Geophysical’s results for the period from October 1, 2010 to September 30, 2011 (“Fiscal 2011”), is included in the Company’s financial results for its fiscal year ended December 31, 2011. 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. The Company’s maximum exposure to loss is limited to its investment which is represented by the financial statement carrying amount of its equity method investment in INOVA Geophysical of $51.1 million as of December 31, 2013. The Company has no obligation, implicit or explicit, to fund any expenses of INOVA Geophysical.

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The following table reflects summarized financial information for INOVA Geophysical, on a 100% basis, as of September 30, 2013 and 2012 and for Fiscal 2013, Fiscal 2012 and Fiscal 2011 (in thousands):

	September 30, 2013	2012
Current assets	$147,475	$138,401
Non-current assets	71,551	101,280
Current liabilities	110,972	78,241
Non-current liabilities	2,731	9,290
Equity	$105,323	$152,150

	Fiscal 2013	Fiscal 2012	Fiscal 2011
Total net revenues	$183,619	$188,336	$138,735
Gross profit (loss)	$(1,988) (A)	$39,320	$5,765 (B)
Income (loss) from operations	$(44,463)	$3,241	$(41,836)
Net income (loss)	$(46,149) (A)	$2,197	$(46,033)

(A) Includes approximately $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.

(B) Includes approximately $15.7 million of excess and obsolete inventory charges.

The difference between the amount of the Company's share in INOVA Geophysical's net income (loss) for Fiscal 2013 and Fiscal 2012 and the "Equity in earnings (losses) of INOVA Geophysical" reflected on the Consolidated Statement of Operations for the years ended December 31, 2013 and 2012 is primarily due to transactions between the Company's multi-client data library business and INOVA Geophysical, specifically the Company's rental of land seismic equipment from INOVA Geophysical to acquire seismic data for its new venture projects.

Related Party Transactions

For information regarding transactions between the Company and its equity method investees, see Note 19 "Certain Relationships and Related Party Transactions."

(4) Long-term Debt and Lease Obligations

Obligations (in thousands)	December 31, 2013	2012
Senior secured second-priority notes	$175,000	$—
Revolving line of credit	35,000	97,250
Facility lease obligation	1,501	2,334
Equipment capital leases	8,651	5,744
Total	220,152	105,328
Current portion of long-term debt and lease obligations	(5,906)	(3,496)
Non-current portion of long-term debt and lease obligations	$214,246	$101,832

Senior Secured Second-Priority Notes

On May 13, 2013, the Company issued and sold $175 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, commencing on November 15, 2013.

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 twelve-month period beginning on May 15th of the years indicated below:

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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 Company's senior first-priority secured credit facility with China Merchants Bank Co., Ltd., New York Branch ("CMB") as administrative agent and lender under the facility (which is defined below as the "Credit Facility"; see "– Revolving Line of Credit" below). The indebtedness under the Notes is effectively junior to the Company's obligations under the senior secured credit facility to the extent of the value of the collateral securing the 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 Company used the net proceeds from the offering to repay outstanding indebtedness under its senior secured credit facility with CMB and for general corporate purposes. The Notes have not been registered under the Securities Act of 1933, as amended (the "Securities Act"), or applicable state securities laws and may not be offered or sold in the United States absent registration or an applicable exemption from the registration requirements of the Securities Act and applicable state laws.

The Notes contain certain covenants that, among other things, limit the Company's ability and the ability of its restricted subsidiaries to:

- Make certain investments; pay certain dividends or distributions on the capital stock or other equity interests of the Company or any restricted subsidiary; purchase, redeem or retire capital stock or certain indebtedness or make other types of restricted payments, unless
  - * No default under the Indenture has occurred or would occur as a result of such payment or investment,
  - * The Company would, after giving pro forma effect to such investment or payment, have been permitted to incur at least $1.00 of additional indebtedness under a Fixed Charge Coverage Ratio test under the Indenture and
  - * The aggregate cumulative amount of all such payments or investments would not exceed a sum calculated by reference to, among other items, the Company's consolidated net income, proceeds from certain sales of equity or assets, certain conversions or exchanges of debt for equity and certain other reductions in indebtedness;
- Incur additional indebtedness or issue certain preferred stock, unless the Fixed Charge Coverage Ratio for the four most recently completed fiscal quarters immediately prior to such incurrence or issuance would have been 2.0 to 1.0, as determined on a pro forma basis as if the debt had been incurred or the stock issued at the beginning of such four-quarter period;
- Create, incur or assume any lien, except certain permitted liens;
- Restrict or encumber the ability of any restricted subsidiary to (i) pay dividends on or make any other distributions with respect to its equity interests, (ii) pay indebtedness owed to the Company or any restricted subsidiary, (iii) make loans or advances to the Company or any of its restricted subsidiaries or (iv) sell, lease or transfer properties or assets to the Company or any restricted subsidiary;
- Carry out certain mergers or consolidations with another entity, or sell, assign or lease all or substantially all of the properties or assets of the Company and its Restricted Subsidiaries, taken as a whole, unless
  - * No default under the Indenture has occurred or would occur as a result of such merger or sale, and
  - * The Fixed Charge Coverage Ratio of the Company or its successor for the four most recently completed fiscal quarters immediately prior to such merger or sale would have been 2.0 to 1.0, as determined on a pro forma basis as if the merger or sale and any related financing transactions had occurred at the beginning of such four-quarter period, which would permit the Company or its successor to incur additional indebtedness under the Indenture;
- Create unrestricted subsidiaries; or
- Enter into certain transactions with affiliates of the Company.

These and other restrictive covenants contained in the Indenture are subject to important exceptions and qualifications. All of the Company's subsidiaries are currently restricted subsidiaries.
As of December 31, 2013, the Company was in compliance with these covenants.

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In connection with the offering of the Notes, the Company entered into a consent agreement with CMB as administrative agent and lender under the Company's senior secured credit facility. See "— Revolving Line of Credit" below.

In connection with the issuance of the Notes, the Company and the Notes Guarantors entered into a second lien intercreditor agreement dated as of May 13, 2013 (the "Intercreditor Agreement") with, among others, CMB, as administrative agent, first lien representative for the first lien secured parties and collateral agent for the first lien secured parties, the trustee under the Indenture and the collateral agent for the second lien secured parties. The Intercreditor Agreement provides, among other things, that the liens on the collateral securing the Notes and related obligations will be junior and subordinate in all respects to the liens on the collateral securing the Company's senior secured credit facility and related obligations.

Revolving Line of Credit

On May 29, 2012, the Company amended the terms of its senior secured credit facility (the "Credit Facility") with CMB. The First Amendment to Credit Agreement and Loan Documents (the "First Amendment") modified certain provisions of the Company's senior credit agreement with CMB that it had entered into on March 25, 2010. The maturity date of any outstanding debt under the Credit Facility is March 24, 2015.

As amended by the First Amendment, the Credit Facility provides that the Company may make revolving credit borrowings in U.S. Dollars, Euros, British Pounds Sterling or Canadian Dollars up to an amount not to exceed the U.S. Dollar equivalent of $175.0 million. The Company also agreed that no additional borrowings may be made at any time at which the outstanding indebtedness under the revolving line of credit (principal, accrued interest and fees) exceeds the U.S. Dollar equivalent of $175.0 million. In addition, all then-outstanding term loan indebtedness under the Credit Facility was converted to revolving credit indebtedness, such that as of May 29, 2012, there was $98.3 million in total revolving credit indebtedness outstanding under the Credit Facility. The First Amendment eliminated sub-facility limits under the Credit Facility.

The Company's obligations under the Credit Facility continue to be guaranteed by certain of its material U.S. subsidiaries that remain as parties to the Credit Facility. INOVA Geophysical continues to provide a bank stand-by letter of credit as credit support for the Company's obligations under the Credit Agreement. In addition, BGP has issued a comfort letter on behalf of the INOVA stand-by letter of credit.

As amended by the First Amendment, the interest rates per annum on borrowings under the Credit Facility are at the Company's option:

- An alternate base rate equal to the sum of (i) the greatest of (a) the prime rate of CMB, (b) a federal funds effective rate plus 0.50%, or (c) an adjusted LIBOR-based rate plus 1.0% and (ii) an applicable interest margin of 1.4% (reduced from 2.5%); or
- For eurodollar borrowings and borrowings in Euros, Pounds Sterling or Canadian Dollars, the sum of (i) an adjusted LIBOR-based rate, and (ii) an applicable interest margin of 2.4% (reduced from 3.5%).

As of December 31, 2013, the $35.0 million in outstanding revolving loan indebtedness under the Credit Facility accrued interest at a rate of 2.57% per annum.

The Credit Facility requires compliance with certain financial covenants, including the following:

- Maintain a minimum fixed charge coverage ratio, as defined, in an amount equal to at least 1.125 to 1;
- Not exceed a maximum leverage ratio, as defined, of 3.25 to 1; and
- Maintain a minimum tangible net worth of at least 60% of ION's tangible net worth as of March 31, 2010, as defined.

As of December 31, 2013, the Company was in compliance with these financial covenants and the Company expects to remain in compliance with these financial covenants for at least the next 12 months.

Facility Lease Obligation

In 2001, the Company sold certain facilities it owned in Stafford, Texas. Simultaneously with the sale, the Company entered into a non-cancelable twelve-year lease with the purchaser of the property. Because the Company retained a continuing involvement in the property that precluded sale-leaseback treatment for financial accounting purposes, the sale-leaseback transaction was accounted for as a financing transaction.

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In June 2005, the owner sold the facilities to two parties, which were unrelated to each other as well as unrelated to the seller. In conjunction with the sale of the facilities, the Company entered into two separate lease arrangements for each of the facilities with the new owners. One lease, which was classified as an operating lease, has a twelve-year lease term. The second lease continues to be accounted for as a financing transaction due to the Company's continuing involvement in the property as a lessee under a ten-year lease term. The Company recorded the commitment under the second lease as a $5.5 million lease obligation at an implicit rate of 11.7% per annum, of which $1.5 million was outstanding at December 31, 2013. Both leases have renewal options allowing the Company to extend the leases for up to an additional twenty-year term, which the Company does not expect to renew.

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 2016. Interest accrues under these leases at rates of up to 6.0% 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 is as follows (in thousands):

Years Ended December 31,	Long-Term Debt	Capital Lease Obligations
2014	$ 966	$4,940
2015	35,535	2,923
2016	—	788
2017	—	—
2018	175,000	—
Total	$ 211,501	$8,651

(5) Net Income (Loss) per Common Share

Basic net income (loss) per common share is computed by dividing net income (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, 2013, 2012 and 2011 were 6,828,727, 4,864,553 and 2,974,886, respectively.

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 6,065,075 shares of common stock. See further discussion of the Series D Preferred Stock conversion provisions at Note 8 "Cumulative Convertible Preferred Stock." The effects of the outstanding shares of all Series D Preferred Stock were anti-dilutive for the years ended December 31, 2013 and 2012.

The following table summarizes the computation of basic and diluted net income (loss) per common share (in thousands, except per share amounts):

	Years Ended December 31,		
	2013	2012	2011
Net income (loss) applicable to common shares	$(251,874)	$61,963	$23,422
Income impact of assumed Series D Preferred Stock conversion	—	1,352	—
Net income after assumed Series D Preferred Stock conversion	$(251,874)	$63,315	$23,422
Weighted average number of common shares outstanding	158,506	155,801	154,811
Effect of dilutive stock awards	—	899	1,279
Effect of Series D Preferred Stock	—	6,065	—
Weighted average number of diluted common shares outstanding	158,506	162,765	156,090
Basic net income (loss) per share	$(1.59)	$0.40	$0.15
Diluted net income (loss) per share	$(1.59)	$0.39	$0.15

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(6) Details of Selected Balance Sheet Accounts

Accounts Receivable

A summary of accounts receivable is as follows (in thousands):

	December 31,	
	2013	2012
Accounts receivable, principally trade	$156,670	$133,847
Less allowance for doubtful accounts	(7,222)	(6,711)
Accounts receivable, net	$149,448	$127,136

Inventories

A summary of inventories is as follows (in thousands):

	December 31,	
	2013	2012
Raw materials and purchased subassemblies	$54,168	$49,421
Work-in-process	2,297	8,613
Finished goods	33,263	26,880
Reserve for excess and obsolete inventories	(32,555)	(14,239)
Total	$57,173	$70,675

The Company provides for estimated obsolescence or excess inventory in amounts equal to the difference between the cost of inventory and market based upon assumptions about future demand for the Company's products and market conditions. For 2013, the Company increased its reserve for excess and obsolete inventories by $18.2 million related to write-downs of inventory resulting from the restructuring of its Systems segment. In addition, the Company wrote off $1.1 million of inventory through scrap expense and wrote down $1.9 million of inventory to a lower of cost or market value basis as a result of the restructuring. For additional information related to the Company's restructuring charges, see Note 17 "Restructuring Activities."

For 2012 and 2011, the Company recorded inventory obsolescence and excess inventory charges of approximately $1.3 million and $0.6 million, respectively.

Property, Plant, Equipment and Seismic Rental Equipment

A summary of property, plant, equipment and seismic rental equipment is as follows (in thousands):

	December 31,	
	2013	2012
Buildings	$23,292	$15,126
Machinery and equipment	97,242	87,127
Seismic rental equipment	8,649	10,895
Furniture and fixtures	4,673	3,403
Other	3,577	3,857
Total	137,433	120,408
Less accumulated depreciation	(90,749)	(86,636)
Property, plant, equipment and seismic rental equipment, net	$46,684	$33,772

Total depreciation expense, including amortization of assets recorded under capital leases, for 2013, 2012 and 2011 was $14.8 million, $12.5 million and $9.4 million, respectively. In 2012, the Company wrote down $5.9 million of marine seismic equipment it had leased to a marine seismic contractor. This write-down was reflected in general, administrative and other operating expenses.

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Intangible Assets

A summary of intangible assets, net, is as follows (in thousands):

	December 31, 2013		
	Gross Amount	Accumulated Amortization	Net
Customer relationships	$42,593	$(31,880)	$10,713
Intellectual property rights	4,300	(3,766)	534
Total	$46,893	$(35,646)	$11,247

	December 31, 2012		
	Gross Amount	Accumulated Amortization	Net
Customer relationships	$42,397	$(28,909)	$13,488
Intellectual property rights	4,300	(2,947)	1,353
Total	$46,697	$(31,856)	$14,841

Total amortization expense for intangible assets for 2013, 2012 and 2011 was $3.8 million, $3.9 million and $4.5 million, respectively. A summary of the estimated amortization expense for the next five years is as follows (in thousands):

Years Ended December 31,	
2014	$2,723
2015	$2,411
2016	$1,962
2017	$1,670
2018	$1,435

Accrued Expenses

A summary of accrued expenses is as follows (in thousands):

	December 31, 2013	2012
Accrued multi-client data library acquisition costs	$25,140	$47,678
Compensation, including compensation-related taxes and commissions	29,727	28,993
Deferred income tax liability	11,967	20,556
Accrued legal contingency [(A)]	—	10,000
Income tax payable	5,845	8,348
Other	11,679	8,520
Total	$84,358	$124,095

(A) At December 31, 2012, the Company had an accrual for loss contingency related to legal proceedings of $10.0 million. During 2013, this amount was reclassified into other long-term liabilities.

Other Long-term Liabilities

A summary of other long-term liabilities is as follows (in thousands):

	December 31, 2013	2012
Accrual for loss contingency related to legal proceedings (Note 16)	$193,327	$—
Facility restructuring accrual	4,837	5,642
Other	12,438	2,489
Total	$210,602	$8,131

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(7) Goodwill

On December 31, 2013 and 2012, the Company completed the annual reviews of the carrying value of goodwill in its Solutions, Software and Marine Systems reporting units and noted no impairments. The 2013 quantitative assessment indicated that the fair values of its Solutions and Software reporting units significantly exceeded their carrying values. However, if the estimates or related projections associated with the reporting units significantly change in the future, the Company may be required to record impairment charges.

For goodwill testing purposes, the $193.3 million litigation contingency accrual is assigned to the Marine Systems reporting unit. Based on the increase in this accrual and the recording of a valuation allowance on substantially all of the Company's net deferred tax assets in the third quarter of 2013, this reporting unit's carrying value was negative as of December 31, 2013. Based on the Company's evaluation of qualitative factors relevant to the Marine Systems reporting unit, the second step of the impairment test was performed to measure the amount of any potential impairment by comparing the implied fair value of the reporting unit's goodwill with the carrying amount of that goodwill. The excess of the fair value of a reporting unit over the amounts assigned to its assets and liabilities in a hypothetical purchase price allocation is the implied fair value of goodwill. The Company completed the step two impairment test, which did not indicate an impairment of goodwill associated with the Marine Systems reporting unit.

The following is a summary of the changes in the carrying amount of goodwill for the years ended December 31, 2013 and 2012 (in thousands):

	Solutions	Software	Marine Systems	Total
Balance at January 1, 2012	$2,701	$24,278	$26,984	$53,963
Purchase price adjustment	242	—	—	242
Impact of foreign currency translation adjustments	—	1,144	—	1,144
Balance at December 31, 2012	2,943	25,422	26,984	55,349
Impact of foreign currency translation adjustments	—	527	—	527
Balance at December 31, 2013	$2,943	$25,949	$26,984	$55,876

(8) Cumulative Convertible Preferred Stock

During 2005, the Company entered into an Agreement with Fletcher International, Ltd. (this Agreement, as amended, is referred to as the "Fletcher Agreement") and issued to Fletcher 30,000 shares of Series D-1 Cumulative Convertible Preferred Stock ("Series D-1 Preferred Stock") in a privately-negotiated transaction, receiving $29.8 million in net proceeds. The Fletcher Agreement also provided to Fletcher an option to purchase up to an additional 40,000 shares of additional series of preferred stock from time to time, with each series having a conversion price that would be equal to 122% of an average daily volume-weighted market price of the Company's common stock over a trailing period of days at the time of issuance of that series. In 2007 and 2008, Fletcher exercised this option and purchased 5,000 shares of Series D-2 Cumulative Convertible Preferred Stock ("Series D-2 Preferred Stock") for $5.0 million (in December 2007) and the remaining 35,000 shares of Series D-3 Cumulative Convertible Preferred Stock ("Series D-3 Preferred Stock") for $35.0 million (in February 2008). The shares of Series D-1 Preferred Stock, Series D-2 Preferred Stock and Series D-3 Preferred Stock are sometimes referred to herein as the "Series D Preferred Stock."

Dividends on the shares of Series D Preferred Stock were required to be paid in cash on a quarterly basis. Dividends were payable at a rate equal to the greater of (i) 5.0% per annum or (ii) the three month LIBOR rate on the last day of the immediately preceding calendar quarter plus 2.5% per annum. Commencing in November 2008, the conversion price for the Series D Preferred Stock was $4.4517 per share, and Fletcher had no right to redeem the Series D Preferred Stock. In addition, commencing in January 2011, under the Fletcher Agreement the aggregate number of shares of common stock issued or issuable to Fletcher upon conversion or redemption of, or as dividends paid on, the Series D Preferred Stock could not exceed 15,724,306 shares.

On April 8, 2010, Fletcher converted 8,000 of its shares of the outstanding Series D-1 Preferred Stock and all of the outstanding 35,000 shares of the Series D-3 Preferred Stock into a total of 9,659,231 shares of the Company's common stock. Until June 2012, Fletcher owned 22,000 shares of the Series D-1 Preferred Stock and 5,000 shares of the Series D-2 Preferred Stock, which were convertible into 6,065,075 shares of the Company's common stock. In June 2012, Fletcher filed a voluntary petition for relief under Chapter 11 of the U.S. Bankruptcy Code in the U.S. Bankruptcy

Court for the Southern District of New York. All of the shares of Series D Preferred Stock, which had been pledged by Fletcher to secure certain indebtedness, were sold by the pledgee to an affiliate of D.E. Shaw & Co., Inc. in June 2012.

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On September 30, 2013, the affiliate of D. E. Shaw & Co., Inc., as holder of all of the shares of Series D Preferred Stock of the Company remaining outstanding, converted all of the shares into a total of 6,065,075 shares of the Company's common stock. Concurrently with the holder's conversion of its shares of Series D Preferred Stock, the Company paid the holder a cash payment of approximately $5.0 million, representing the estimated present value of certain future dividends in respect of the Series D Preferred Stock. The cash payment made in connection with the conversion of preferred stock reduced the net income (loss) applicable to common shares. As a result of the conversion, all outstanding shares of Series D Preferred Stock were converted into shares of the Company's common stock and no shares of Series D Preferred Stock remain outstanding.

(9) Stockholders' Equity and Stock-based Compensation

Stock Option Plans

The Company has adopted stock option plans for eligible employees, directors and consultants, which provide for the granting of options to purchase shares of common stock. As of December 31, 2013, there were 8,258,500 outstanding options under the Company's stock option plans, and 5,021,453 shares available for future grant and issuance.

The options under these plans generally vest in equal annual installments over a four-year period and have a term of ten years. These options are typically granted with an exercise price per share equal to or greater than the current market price and, upon exercise, are issued from the Company's unissued common shares. In August 2006, the Compensation Committee of the Board of Directors of the Company approved fixed pre-established quarterly grant dates for all future grants of options.

Transactions under the stock option plans are summarized as follows:

	Option Price per Share	Outstanding	Vested	Available for Grant
January 1, 2011	2.49-16.39	7,721,792	5,389,408	1,648,700
Increase in shares authorized	—	—	—	5,000,000
Granted	5.81-10.09	1,559,400	—	(1,559,400)
Vested	—	—	851,222	—
Exercised	2.49-11.51	(2,145,792)	(2,145,792)	—
Cancelled/forfeited	3.00-15.43	(344,100)	(250,300)	262,513
Restricted stock granted out of option plans	—	—	—	(651,661)
Restricted stock forfeited or cancelled for employee minimum income taxes and returned to the plans	—	—	—	93,488
December 31, 2011	2.49-16.39	6,791,300	3,844,538	4,793,640
Granted	5.96-7.16	1,544,000	—	(1,544,000)
Vested	—	—	1,060,275	—
Exercised	2.49-7.76	(194,410)	(194,410)	—
Cancelled/forfeited	2.49-15.43	(212,540)	(119,165)	127,125
Restricted stock granted out of option plans	—	—	—	(667,000)
Restricted stock forfeited or cancelled for employee minimum income taxes and returned to the plans	—	—	—	229,163
December 31, 2012	$2.80-$16.39	7,928,350	4,591,238	2,938,928
Increase in shares authorized	—	—	—	3,730,000
Plan Expiration	—	—	—	(79,250)
Granted	3.86-6.64	1,788,300	—	(1,788,300)
Vested	—	—	1,055,412	—
Exercised	2.80-5.81	(707,575)	(707,575)	—
Cancelled/forfeited	3.00-15.43	(750,575)	(353,600)	702,325
Restricted stock granted out of option plans	—	—	—	(714,950)
Restricted stock forfeited or cancelled for employee minimum income taxes and returned to the plans	—	—	—	232,700
December 31, 2013	$2.83-$16.39	8,258,500	4,585,475	5,021,453

Stock options outstanding at December 31, 2013 are summarized as follows:

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Option Price per Share	Outstanding	Weighted Average Exercise Price of Outstanding Options	Weighted Average Remaining Contract Life	Vested	Weighted Average Exercise Price of Vested Options
$2.83 - $4.58	2,248,475	$ 3.69	8.4 years	681,175	$3.27
$4.79 - $7.19	4,191,075	$ 6.26	7.6 years	2,097,850	$6.34
$7.31 - $13.29	993,500	$ 9.32	2.3 years	981,000	$9.31
$14.03 - $16.39	825,450	$ 15.26	4.1 years	825,450	$15.26
Totals	8,258,500	$ 6.83	6.8 years	4,585,475	$8.12

Additional information related to the Company's stock options is as follows:

	Number of Shares	Weighted Average Exercise Price	Weighted Average Grant Date Fair Value	Weighted Average Remaining Contractual Life	Aggregate Intrinsic Value (000's)
Total outstanding at January 1, 2013	7,928,350	$7.19		6.9 years	
Options granted	1,788,300	$4.22	$2.52		
Options exercised	(707,575)	$3.57			
Options cancelled	(422,850)	$5.98			
Options forfeited	(327,725)	$9.54			
Total outstanding at December 31, 2013	8,258,500	$6.83		6.8 years	$171
Options exercisable and vested at December 31, 2013	4,585,475	$8.12		5.1 years	$171

The total intrinsic value of options exercised during 2013, 2012 and 2011 was $2.0 million, $0.6 million and $13.3 million, respectively. Cash received from option exercises under all share-based payment arrangements for 2013, 2012 and 2011 was $2.5 million, $0.8 million and $13.1 million, respectively. The weighted average grant date fair value for stock option awards granted during 2013, 2012 and 2011 was $2.52, $3.54 and $4.00 per share, respectively.

Restricted Stock and Restricted Stock Unit Plans

The Company has issued restricted stock and restricted stock units under the Company's 2013 Long-Term Incentive Plan and other applicable plans. Restricted stock units are awards that obligate the Company to issue a specific number of shares of common stock in the future if continued service vesting requirements are met. Non-forfeitable ownership of the common stock will vest over a period as determined by the Company in its sole discretion, generally in equal annual installments over a three-year period. Shares of restricted stock awarded may not be sold, assigned, transferred, pledged or otherwise encumbered by the grantee during the vesting period.

The status of the Company's restricted stock and restricted stock unit awards for 2013 is as follows:

	Number of Shares/Units
Total nonvested at January 1, 2013	1,033,447
Granted	714,950
Vested	(578,369)
Forfeited	(117,620)
Total nonvested at December 31, 2013	1,052,408

At December 31, 2013, the intrinsic value of restricted stock and restricted stock unit awards was approximately $3.5 million. The weighted average grant date fair value for restricted stock and restricted stock unit awards granted during 2013, 2012 and 2011 was $4.08, $6.05 and $6.34 per share, respectively. The total fair value of shares vested during 2013, 2012 and 2011 was $2.4 million, $4.6 million and $3.3 million, respectively.

Employee Stock Purchase Plan

In June 2010, the Company adopted an Employee Stock Purchase Plan ("ESPP") to replace the prior ESPP, which terminated on December 31, 2008. The ESPP allows all eligible employees to authorize payroll deductions at a rate of 1% to 10% of base compensation (or a fixed amount per pay period) for the purchase of the Company's common stock. Each participant is limited to purchase no more than 500 shares per offering period or 1,000 shares annually. Additionally, no participant may purchase shares in any calendar year that exceeds $10,000 in fair market value based on the fair market value

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of the stock on the offering commencement date. The purchase price of the common stock is the lesser of 85% of the closing price on the first day of the applicable offering period (or most recently preceding trading day) or 85% of the closing price on the last day of the offering period (or most recently preceding trading day). Each offering period is six months and commences on February 1 and August 1 of each year. The ESPP is considered a compensatory plan under ASC 718, and the Company recorded compensation expense of approximately $0.2 million and $0.3 million and $0.3 million during 2013, 2012 and 2011, respectively. The expense represents the estimated fair value of the look-back purchase option. The fair value was determined using the Black-Scholes option pricing model and was recognized over the purchase period. The total number of shares of common stock authorized and available for issuance under ESPP is 1,120,452. The maximum number of shares of common stock that may be purchased for each offering period is 100,000 (200,000 annually).

Stock Appreciation Rights Plan

The Company has adopted a stock appreciation rights plan which provides for the award of stock appreciation rights ("SARs") to directors and selected key employees and consultants. The awards under this plan are subject to the terms and conditions set forth in agreements between the Company and the holders. The exercise price per SAR is not to be less than one hundred percent of the fair market value of a share of common stock on the date of grant of the SAR. The term of each SAR shall not exceed ten years from the grant date. Upon exercise of a SAR, the holder shall receive a cash payment in an amount equal to the spread specified in the SAR agreement for which the SAR is being exercised. In no event will any shares of common stock be issued, transferred or otherwise distributed under the plan. As of December 31, 2013, the Company had outstanding 140,000 SAR awards to one individual with an exercise price of $3.00. The Company recorded less than $0.1 million, less than $0.1 million and $0.3 million, respectively, of share-based compensation expense during 2013, 2012 and 2011 related to employee stock appreciation rights. Pursuant to ASC 718, the stock appreciation rights are considered liability awards and as such, these amounts are accrued in the liability section of the balance sheet.

Valuation Assumptions

The Company calculated the fair value of each stock option on the date of grant using the Black-Scholes option pricing model. The following assumptions were used for each respective period:

	Years Ended December 31,		
	2013	2012	2011
Risk-free interest rates	0.9% – 1.8%	0.7% – 1.0%	1.1% – 1.9%
Expected lives (in years)	5.5	5.5	5.5
Expected dividend yield	— %	— %	— %
Expected volatility	62.1% – 70.6%	67.8% – 72.2%	65.9% – 80.2%

The computation of expected volatility during 2013, 2012 and 2011 was based on an equally weighted combination of historical volatility and market-based implied volatility. Historical volatility was calculated from historical data for a period of time approximately equal to the expected term of the option award, starting from the date of grant. Market-based implied volatility was derived from traded options on the Company's common stock having a term of six months. The Company's computation of expected life in 2013, 2012 and 2011 was determined based on historical experience of similar awards, giving consideration to the contractual terms of the stock-based awards, vesting schedules and expectations of future employee behavior. The risk-free interest rate assumption is based upon the U.S. Treasury yield curve in effect at the time of grant for periods corresponding with the expected life of the option.

Stock-based Compensation Expense

The following table summarizes stock-based compensation expense for the years ended December 31, 2013, 2012 and 2011 as follows (in thousands):

	Years Ended December 31,		
	2013	2012	2011
Stock-based compensation expense	$7,476	$6,598	$6,344
Tax benefit related thereto	(2,469)	(2,056)	(1,976)
Stock-based compensation expense, net of tax	$5,007	$4,542	$4,368

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(10) Other Income (Expense)

A summary of other income (expense) is as follows (in thousands):

	Years Ended December 31,		
	2013	2012	2011
Accrual for loss contingency related to legal proceedings (Note 16)	$(183,327)	$(10,000)	$—
Gain on sale of a cost method investment	3,591	—	—
Gain on legal settlements (Note 16)	—	30,895	—
Other income (expense)	(2,794)	(3,771)	(3,447)
Total other income (expense)	$(182,530)	$17,124	$(3,447)

(11) Income Taxes

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

	Years Ended December 31,		
	2013	2012	2011
Domestic	$(221,185)	$34,633	$12,674
Foreign	387	52,050	22,028
Total	$(220,798)	$86,683	$34,702

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

	Years Ended December 31,		
	2013	2012	2011
Current:			
Federal	$4,113	$873	$6,594
State and local	485	192	493
Foreign	16,278	19,106	11,180
Deferred:			
Federal	4,012	3,822	(4,893)
Foreign	832	(136)	(3,238)
Total income tax expense	$25,720	$23,857	$10,136

A reconciliation of the expected income tax expense on income (loss) before income taxes using the statutory federal income tax rate of 35% for 2013, 2012 and 2011 to income tax expense is as follows (in thousands):

	Years Ended December 31,		
	2013	2012	2011
Expected income tax expense (benefit) at 35%	$(77,279)	$30,339	$12,146
Foreign tax rate differential	(2,348)	(5,404)	(7,858)
Foreign tax differences	16,808	4,897	(2,511)
State and local taxes	485	192	493
Nondeductible expenses	(58)	47	1,091
Valuation allowance:			
Valuation allowance on equity in losses of INOVA Geophysical	7,871	(104)	8,002
Valuation allowance on operations	80,241	(6,110)	(1,227)
Total income tax expense	$25,720	$23,857	$10,136

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

	December 31, 2013	2012
Current deferred:		
Deferred income tax assets:		
Accrued expenses	$5,898	$11,417
Allowance accounts	6,282	5,359
Total current deferred income tax asset	12,180	16,776
Valuation allowance	(10,535)	(10,454)
Net current deferred income tax asset	1,645	6,322
Deferred income tax liabilities:		
Unbilled receivables	(13,516)	(26,863)
Total net current deferred income tax liability	$(11,871)	$(20,541)
Non-current deferred:		
Deferred income tax assets:		
Net operating loss carryforward	$9,043	$7,227
Capital loss carryforward	19,657	19,919
Equity method investment	41,176	33,305
Cost method investments	—	4,037
Basis in identified intangibles	9,950	4,852
Basis in research and development	3,733	3,196
Contingency accrual	67,664	—
Tax credit carryforwards and other	8,893	10,387
Total non-current deferred income tax asset	160,116	82,923
Valuation allowance	(140,500)	(52,807)
Net non-current deferred income tax asset	19,616	30,116
Deferred income tax liabilities:		
Basis in property, plant and equipment	(5,457)	(2,387)
Total net non-current deferred income tax asset	$14,159	$27,729

As of December 31, 2012 the Company had recorded a valuation allowance for items that relate to capital losses or basis differences that would create capital losses. 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, 2013, the Company has a net U.S. deferred tax asset of approximately $3.7 million. The Company has determined that this net deferred tax asset is more likely than not to be realized through the expected reversal of existing temporary differences and the ability to offset the related deductions against taxable income in open carryback years. 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. In the event the Company’s expectations of future operating results change, an additional valuation allowance may be required to be established on the Company’s existing unreserved net U.S. deferred tax assets.

At December 31, 2013, the Company had net operating loss carry-forwards outside of the U.S. of approximately $41.7 million, the majority of which expires beyond 2027.

As of December 31, 2013, the Company has approximately $2.2 million of unrecognized tax benefits and does not expect to recognize any significant increases in unrecognized tax benefits during the next twelve-month period. Interest and penalties, if any, related to unrecognized tax benefits are recorded in income tax expense. During 2013, 2012 and 2011, the aggregate changes in the Company’s total gross amount of unrecognized tax benefits are

summarized as follows (in thousands):

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	Years Ended December 31,		
	2013	2012	2011
Beginning balance	$1,834	$1,375	$816
Increases in unrecognized tax benefits – prior year positions	—	—	—
Increases in unrecognized tax benefits – current year positions	385	459	559
Ending balance	$2,219	$1,834	$1,375

The Company's U.S. federal tax returns for 2007 and subsequent years remain subject to examination by tax authorities. The Company is no longer subject to IRS examination for periods prior to 2007, although carryforward attributes that were generated prior to 2007 may still be adjusted upon examination by the IRS if they either have been or will be used in a future period. In the Company's foreign tax jurisdictions, tax returns for 2009 and subsequent years generally remain open to examination.

As of December 31, 2013, the Company considered the outside book-over-tax basis difference in its foreign subsidiaries to be in the amount of approximately $43.1 million. United States income taxes have not been provided on this difference as it is the Company's intention to reinvest the undistributed earnings of its foreign subsidiaries indefinitely. The Company's U.S. operations are expected to be fully supported by existing cash balances and U.S.-generated cash flows. These foreign earnings could become subject to additional tax if remitted, or deemed remitted, to the United States as a dividend; however, it is not practicable to estimate the additional amount of taxes payable.

(12) Supplemental Cash Flow Information and Non-cash Activity

Supplemental disclosure of cash flow information is as follows (in thousands):

	Years Ended December 31,		
	2013	2012	2011
Cash paid during the period for:			
Interest	$9,576	$4,625	$6,440
Income taxes	15,872	18,146	15,473
Non-cash items from investing and financing activities:			
Purchase of computer equipment financed through capital leases	6,455	4,647	2,597
Leasehold improvement paid by landlord	5,000	—	—
Conversion of the Company's investment in a convertible note to equity	6,765	—	—
Transfer of inventory to seismic rental equipment	1,422	6,737	2,978
Purchases of property, plant, and equipment and seismic rental equipment financed through accounts payable	909	—	—
Sale of rental equipment financed with a note receivable	3,636	—	3,578
Exchange of receivable related to a business acquisition	—	—	2,000
Reduction in multi-client data library related to finalization of accrued liabilities	—	—	1,888

(13) Operating Leases

Lessee. The Company leases certain equipment, offices and warehouse space under non-cancelable operating leases. Rental expense was $12.4 million, $14.4 million and $16.7 million for 2013, 2012 and 2011, respectively.

A summary of future rental commitments over the next five years under non-cancelable operating leases is as follows (in thousands):

Years Ending December 31,	
2014	$9,299
2015	9,042
2016	9,517
2017	9,319
2018	8,698
Total	$45,875

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(14) Fair Value of Financial Instruments

Authoritative guidance on fair value measurements defines fair value, establishes a framework for measuring fair value and stipulates the related disclosure requirements. The Company follows a three-level hierarchy, prioritizing and defining the types of inputs used to measure fair value.

Investment in Convertible Notes. In May 2011, the Company purchased a convertible note from a privately-owned U.S.-based technology company. The original principal amount of the note was $6.5 million, and the note accrued interest at a rate of 4% per annum. On April 25, 2013, the Company converted the principal and accrued interest on the indebtedness into 1,533,858 common shares of the investee which resulted in a post-conversion equity ownership percentage interest in the investee of 16.0%. This investment is now accounted for as a cost method investment. At April 25, 2013, prior to conversion, the note and accrued interest had a fair value of $6.5 million compared to a book value of $7.0 million resulting in a realized loss of $(0.5) million. The Company performed a fair value analysis with respect to its investment in the convertible note and interest using Level 3 inputs. These inputs included (i) an income approach, using a discounted cash flow model, (ii) a market approach, using peer company multiples, and (iii) a market approach, including terms and likelihood of an investment event.

In March 2012, the Company and the investee entered into an agreement for the Company to make available to the investee a credit facility in an amount of up to $4.0 million. The credit facility has since been amended, such that the current maturity date is March 2015, the annual interest rate is 0.25%, and the conversion provision allows for the conversion of any or all of the outstanding balance of the promissory note under the credit facility into common shares of the investee. As of December 31, 2013, the investee had drawn $4.0 million under this credit arrangement.

The Company performed a fair value analysis with respect to its investment in the convertible note using Level 3 inputs. These inputs included a market approach, including the terms and likelihood of an investment event. As of December 31, 2013, the fair value of this investment was approximately $4.2 million, including accrued interest.

Fair Value of Other Financial Instruments. Due to their highly liquid nature, the amount of the Company's other financial instruments, including cash and cash equivalents, accounts and unbilled receivables, notes receivable, accounts payable and accrued multi-client data library royalties, represent their approximate fair value.

The carrying amounts of the Company's long-term debt as of December 31, 2013 and December 31, 2012 were $220.2 million and $105.3 million, respectively, compared to its fair values of $190.4 million and $105.3 million as of December 31, 2013 and December 31, 2012, respectively. The fair value of the long-term debt was calculated using a market approach based upon Level 2 inputs, including a price quote from a major financial institution, as of December 31, 2013. As of December 31, 2012, Level 3 inputs were used, including an estimated interest rate reflecting then-current market conditions.

The Company's cost method investments for which quoted market prices are not available are recorded at cost and reviewed periodically if there are events or changes in circumstances that may have a significant adverse effect on the fair value of the investments.

(15) Benefit Plans

The Company has a 401(k) retirement savings plan, which covers substantially all employees. Employees may voluntarily contribute up to 60% of their compensation, as defined, to the plan. Effective June 1, 2000, the Company adopted a company matching contribution to the 401(k) plan. The Company matched the employee contribution at a rate of 50% of the first 6% of compensation contributed to the plan. In April 2009, the Company suspended its match to employee's 401(k) plan contributions, but reinstated its matching contributions in April 2010. Company contributions to the plans were $1.7 million, $1.4 million and $1.3 million, during 2013, 2012 and 2011, respectively.

(16) Legal Matters

WesternGeco

In June 2009, WesternGeco L.L.C. ("WesternGeco") filed a lawsuit against the Company 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 the Company infringed several method and apparatus claims contained in four of its United States patents regarding marine seismic streamer steering devices. WesternGeco sought unspecified monetary damages and an injunction prohibiting the Company from making, using, selling, offering for sale or supplying any infringing products in the United States.

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In June 2010, WesternGeco filed a lawsuit against various subsidiaries and affiliates of Fugro N.V. ("Fugro"), one of the Company's seismic contractor customers, accusing Fugro of infringing the same United States patents regarding marine seismic streamer steering devices by planning to use certain equipment purchased from the Company on a survey located outside of U.S. territorial waters. The court approved the consolidation of the Fugro case with the Company's case. Fugro filed a motion to dismiss the lawsuit, and in March 2011 the presiding judge granted Fugro's motion to dismiss in part, on the basis that the alleged activities of Fugro would occur more than 12 miles from the U.S. coast and therefore are not actionable under U.S. patent infringement law.

In response to a Motion for Summary Judgment filed jointly by the Company and Fugro, the Court ruled in April 2012 that the Company did not directly infringe WesternGeco's method patent claims. In a pre-trial ruling on June 29, 2012, the Court ruled that, if a particular patent claim of WesternGeco was held to be valid and enforceable at the upcoming trial, the Company's DigiFIN® lateral streamer control system, when combined with the Company's lateral controller in the United States, would infringe one claim in one of WesternGeco's asserted patents, U.S. Patent No. 7,293,520, under 35 U.S.C. §271(f)(1).

Trial began on July 23, 2012. During the trial, Fugro settled all claims asserted against it by WesternGeco and obtained a global license from WesternGeco. A verdict was returned by the jury on August 16, 2012, finding that the Company willfully infringed the claims contained in the four patents 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 September 2012, the Company filed motions with the trial court to overturn all or portions of the verdict. In June 2013, the presiding judge entered a Memorandum and Order rejecting the jury's finding of willfulness and denying WesternGeco's motions for willfulness and enhanced damages, but also denying the Company's post-verdict motions that challenged the jury's infringement findings and the damages amount. In the Memorandum and Order, the judge also stated that he would approve WesternGeco's motion for a permanent injunction and 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. On October 24, 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. The total damages award in the case now consists of the jury award of $105.9 million and the supplemental damages award of $73.1 million, plus prejudgment interest and court costs. The October 2013 Memorandum and Order also concluded that the Company's infringement involving the supplemental units was not willful and that WesternGeco was not entitled to receive enhanced damages.

The next probable step in the case is for the trial court judge to sign and enter a final judgment. As of the filing date of this Annual Report on Form 10-K, the Court had not yet entered a final judgment in the case.

Upon the entering of a final trial court judgment, the Company intends to appeal the judgment to the United States Court of Appeals for the Federal Circuit. WesternGeco would also have the right to elect to appeal any final judgment. Either within its final judgment or in a separate order entered after its final judgment, the trial court has ruled that it will also enter a permanent injunction against the Company. As of the filing date of this Annual Report on Form 10-K, the Court had not issued the final terms of the permanent injunction. Until the permanent injunction is entered, the final terms of the injunction cannot be known for certain, but it is likely that the permanent injunction will prohibit the Company from supplying it DigiFIN units, two parts that are unique to the DigiFIN product and related software from the United States to its customers overseas with an intention for the customers to combine DigiFIN and the software with other required components of the patent claims. Although no permanent injunction has yet been entered, the Company has conducted its business in compliance with the Court's orders in the case, and the Company has reorganized its operations such that it no longer supplies DigiFIN units, the unique DigiFIN parts or the related software from the United States.

Based on the Company's analysis after the trial court's Memorandum and Order in June 2013 denying its post-verdict motions that challenged the jury's infringement findings and the damages amount, the Company increased its loss contingency accrual related to this case from $10.0 million to $120.0 million, consisting of jury verdict damages, court costs, and estimates of prejudgment interest and supplemental damages. Based on its analysis after the trial court's

Memorandum and Order in October 2013 awarding supplemental damages, the Company further increased its loss contingency accrual related to this case from $120.0 million, to $193.3 million at December 31, 2013 consisting of jury verdict damages, supplemental damages, court costs and estimates of prejudgment interest. Additional interest will continue to accrue until this legal matter is fully resolved.

The Company’s assessment of its potential loss contingency may change in the future due to developments at the trial court or 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 or lesser loss contingency is probable. Any such reassessment could have a material effect on the Company’s financial condition or results of operations.

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As stated above, the Company intends to appeal the trial court judgment to the United States Court of Appeals for the Federal Circuit. In order to stay the judgment during the appeal, the Company will be required to post an appeal bond with the trial court after the final trial court judgment is entered. The amount of the appeal bond is in the discretion of the trial court judge, but it could be required to be up to the full amount of damages entered in the judgment, plus court costs and interest. To be prepared for an adverse judgment in this case, the Company has arranged with sureties to post an appeal bond on the Company's behalf. The sureties have indicated they will likely require the Company to post cash collateral to secure the appeal bond amount for as long as the bond is outstanding. The Company currently believes that the sureties will likely require cash collateral equal to 25% of the appeal bond amount, although they will likely have the contractual right to require cash collateral for up to the full amount of the bond. Until the final judgment is entered and an appeal bond is posted, the terms applicable to the appeal bond, including the amount of collateral required to secure the bond, are not final. Depending on the size of the bond and the amount of collateral required, in order to collateralize the bond the Company would intend to utilize a combination of cash on hand and undrawn balances available under its revolving line of credit. If the appeal bond is required to cover the entire judgment amount and the Company is required to collateralize the full amount of the bond, the Company might also incur additional debt and/or equity financing. The collateralization of the full amount of a large appeal bond could have an adverse effect on the Company's liquidity.

If the Company is unable to post the appeal bond, the Company will be unable to stay enforcement of the trial court judgment during the appeal of the judgment. Until the trial court enters the final judgment and rules on the amount of the appeal bond, the Company is unable to determine for certain the required amount of the bond and whether and to what extent the sureties will require the appeal bond to be collateralized. Similarly, the Company is unable to predict the timing of the final judgment being entered by the trial court or the timing of posting the required appeal bond. Any requirements that the Company collateralize the appeal bond will reduce its liquidity and may reduce the borrowings otherwise available under its credit facility. The current maturity date of any outstanding debt under the Company's Credit Facility is March 2015. No assurances can be made whether the Company's efforts to raise additional cash would be successful and, if so, on what terms and conditions, and at what cost the Company might be able to secure any such financing.

Fletcher

In November 2009, Fletcher International, Ltd. ("Fletcher"), the sole holder of all of the outstanding shares of the Company's Series D Preferred Stock until June 2012, filed a lawsuit against the Company and certain of its directors in the Delaware Court of Chancery. In the lawsuit, styled Fletcher International, Ltd. v. ION Geophysical Corporation, et al, Fletcher alleged, among other things, that the Company violated Fletcher's consent rights contained in the Series D Preferred Stock Certificates of Designation, by (a) the execution and delivery of a convertible promissory note to the Bank of China, New York Branch by one of the Company's subsidiaries (incorporated in Luxembourg), in connection with a bridge loan funded in October 2009 by Bank of China, and (b) the Company's Canadian subsidiary executing and delivering several promissory notes in 2008 in connection with the Company's acquisition of ARAM Systems Ltd. Fletcher also alleged that the Company's directors violated their fiduciary duties by allowing the subsidiaries to deliver the notes without Fletcher's consent. In a Memorandum Opinion issued in May 2010 in response to a motion for partial summary judgment, the judge dismissed all of Fletcher's claims against the named directors but also concluded that, because the bridge loan note executed by the Company's Luxembourg subsidiary in 2009 was convertible into the Company's common stock, Fletcher had the right to consent to the issuance of the note and that the Company had violated Fletcher's consent rights by that subsidiary's issuing the bridge loan note without Fletcher's consent. In March 2011, the judge dismissed certain additional claims asserted by Fletcher. In May 2012, the judge ruled that Fletcher did not have the right to consent with respect to two of the promissory notes executed and delivered by the Company's Canadian subsidiary in September 2008 in connection with the Company's purchase of ARAM Systems Ltd., but that (i) Fletcher did have the right to consent to the execution and delivery in December 2008 of a replacement promissory note in the principal amount of $35 million, and (ii) the Company had violated Fletcher's consent rights by the subsidiary's executing and delivering the replacement promissory note without Fletcher's consent. Fletcher elected not to pursue damages related to the issuance of the replacement $35 million promissory note.

In June 2012, Fletcher filed a voluntary petition for relief under Chapter 11 of the U.S. Bankruptcy Code in the U.S. Bankruptcy Court for the Southern District of New York. Fletcher's shares of Series D Preferred Stock, which had been pledged by Fletcher to secure certain indebtedness, were sold by the pledgee to an affiliate of D.E. Shaw & Co., Inc. in June 2012. On September 30, 2013, the holder of the shares of Series D Preferred Stock fully converted all of the shares into shares of the Company's common stock. After the conversion, there were no shares of Series D Preferred Stock outstanding.

After a trial to determine the amount of damages that the Company would owe Fletcher as a result of the bridge loan note being issued without Fletcher's consent, in December 2013 the presiding judge awarded Fletcher $300,000 in damages, plus prejudgment interest. The Company agreed to pay Fletcher the amount of $500,000 to settle the case and all rights of appeal. The amount of the settlement, along with the Company's fees and expenses incurred in connection with the case, is covered by insurance, subject to applicable deductibles.

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Sercel

In January 2010, the jury in a patent infringement lawsuit filed by the Company against seismic equipment provider Sercel, Inc. in the United States District Court for the Eastern District of Texas returned a verdict in the Company's favor. In the lawsuit, styled Input/Output, Inc. et al v. Sercel, Inc., (5-6-cv-236), the Company alleged that Sercel's 408, 428 and SeaRay digital seismic sensor units infringe the Company's United States Patent No. 5,852,242, which is incorporated in the Company's VectorSeis sensor technology. The jury concluded that Sercel infringed the Company's patent, and the jury awarded the Company $25.2 million in compensatory past damages.

In response to post-verdict motions made by the parties, in September 2010, the presiding judge issued a series of rulings that (a) granted the Company's motion for a permanent injunction to be issued prohibiting the manufacture, use or sale of the infringing Sercel products, (b) confirmed that the Company's patent was valid, (c) confirmed that the jury's finding of infringement was supported by the evidence and (d) disallowed $5.4 million of lost profits damages. In addition, the judge concluded that the evidence supporting the jury's finding that the Company was entitled to be awarded $9.0 million in lost profits associated with certain infringing pre-verdict marine sales by Sercel was too speculative and therefore disallowed that award of lost profits. As a result of the judge's ruling, the Company was entitled to be awarded an additional amount of damages equal to a reasonable royalty on the infringing pre-verdict Sercel marine sales.

In February 2011, the Court entered a final judgment and permanent injunction in the case. The final judgment awarded the Company $10.7 million in damages plus interest, and the permanent injunction prohibits Sercel and parties acting in concert with Sercel from making, using, offering to sell, selling, or importing in the United States (which includes territorial waters of the United States) Sercel's 408UL, 428XL and SeaRay digital sensor units, and all other products that are only colorably different from those products. Sercel and the Company appealed portions of the final judgment, and on February 17, 2012, the appellate court upheld the final judgment. In April 2012, Sercel paid the Company $12.0 million pursuant to the final judgment. In its judgment, the Court also ordered that the additional damages to be paid by Sercel as a reasonable royalty on the infringing pre-verdict Sercel marine sales and the additional damages to be paid by Sercel resulting from additional infringing sales would be determined in a separate proceeding to be conducted in the future. In December 2012, the Company and Sercel settled all remaining claims in exchange for $19.0 million and an agreement by Sercel to pay the Company royalties on future sales. Under this agreement, the Company has no continuing obligations.

Other

The Company has been named in various other lawsuits or threatened actions that are incidental to its ordinary business. Litigation is inherently unpredictable. Any claims against the Company, whether meritorious or not, could be time-consuming, cause the Company 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. Management currently believes that the ultimate resolution of these matters will not have a material adverse impact on the financial condition, results of operations or liquidity of the Company.

(17) Restructuring Activities

In the third quarter of 2013, the Company initiated a restructuring of its Systems segment. This restructuring involves the closing of certain manufacturing facilities and reducing headcount in those and other facilities. The Company incurred a total of $28.0 million of charges, including $6.7 million of cash expenditures.

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. As of December 31, 2013, the Company had a remaining accrual of $0.3 million related to severance costs resulting from the reductions. 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.

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

	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

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(18) Selected Quarterly Information — (Unaudited)

A summary of selected quarterly information is as follows (in thousands, except per share amounts):

	Three Months Ended			
Year Ended December 31, 2013	March 31	June 30	September 30	December 31
Service revenues	$89,949	$89,603	$44,679	$167,086
Product revenues	39,788	31,312	35,159	51,591
Total net revenues	129,737	120,915	79,838	218,677
Gross profit	34,957	36,618	(15,104)	102,842
Income (loss) from operations	1,923	6,770	(56,528)	64,231
Interest expense, net	(1,066)	(2,756)	(4,281)	(4,241)
Equity in earnings (losses) of investments	1,116	(6,338)	(5,192)	(31,906)
Other income (expense)	1,027	(107,118)	(74,301)	(2,138)
Income tax expense (benefit)	1,201	(38,705)	56,954	6,270
Net (income) loss attributable to noncontrolling interests	76	(59)	498	143
Preferred stock dividends	338	338	5,338	—
Net income (loss) applicable to common shares	$1,537	$(71,134)	$(202,096)	$19,819
Net income (loss) per share:				
Basic	$0.01	$(0.45)	$(1.29)	$0.12
Diluted	$0.01	$(0.45)	$(1.29)	$0.12

	Three Months Ended			
Year Ended December 31, 2012	March 31	June 30	September 30	December 31
Service revenues	$66,634	$72,844	$93,023	$122,082
Product revenues	45,076	32,370	43,300	50,988
Total net revenues	111,710	105,214	136,323	173,070
Gross profit	41,156	45,943	55,958	72,744
Income from operations	11,643	12,972	25,049	24,863
Interest expense, net	(1,518)	(1,364)	(1,237)	(1,146)
Equity in earnings (losses) of investments	2,468	3,777	(1,684)	(4,264)
Other income (expense)	(686)	895	(936)	17,851
Income tax expense	3,445	4,184	6,037	10,191
Net loss attributable to noncontrolling interests	113	281	42	53
Preferred stock dividends	338	338	338	338
Net income applicable to common shares	$8,237	$12,039	$14,859	$26,828
Net income per share:				
Basic	$0.05	$0.08	$0.10	$0.17
Diluted	$0.05	$0.08	$0.09	$0.17

(19) Certain Relationships and Related Party Transactions

For 2013, 2012 and 2011, the Company recorded revenues from BGP of $8.0 million, $13.7 million and $34.5 million, respectively. Receivables due from BGP were $1.5 million and $1.6 million at December 31, 2013 and 2012, respectively. BGP owned approximately 14.5% of the Company’s outstanding common stock as of December 31, 2013. For 2013, the Company paid to BGP $46.2 million for seismic acquisition services provided on one of the Company’s new venture projects. At December 31, 2013, the Company owed BGP $1.5 million for unpaid services received for that project.

Mr. James M. Lapeyre, Jr. is the Chairman of the Board on ION’s board of directors and a significant equity owner of Laitram, L.L.C. (Laitram), and he has served as president of Laitram and its predecessors since 1989. Laitram is a privately-owned, New Orleans-based manufacturer of food processing equipment and modular conveyor belts. Mr. Lapeyre and Laitram together owned approximately 6.3% of the Company’s outstanding common stock as of December 31, 2013.

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The Company acquired DigiCourse, Inc., the Company's marine positioning products business, from Laitram in 1998. In connection with that acquisition, the Company entered into a Continued Services Agreement with Laitram under which Laitram agreed to provide the Company certain bookkeeping, software, manufacturing and maintenance services. Manufacturing services consist primarily of machining of parts for the Company's marine positioning systems. The term of this agreement expired in September 2001 but the Company continues to operate under its terms. In addition, from time to time, when the Company has requested, the legal staff of Laitram has advised the Company on certain intellectual property matters with regard to the Company's marine positioning systems. Under an amended lease of commercial property dated February 1, 2006, between Lapeyre Properties, L.L.C. (an affiliate of Laitram) and ION, the Company has leased certain office and warehouse space from Lapeyre Properties through January 2014, with the right to terminate the lease sooner upon 12 months' notice. During 2013, the Company paid Laitram and its affiliates a total of approximately $4.2 million, which consisted of approximately $3.5 million for manufacturing services, $0.4 million for rent and other pass-through third party facilities charges, and $0.3 million for reimbursement for costs related to providing administrative and other back-office support services in connection with the Company's Louisiana marine operations. For the 2012 and 2011 fiscal years, the Company paid Laitram and its affiliates a total of approximately $4.1 million and $6.3 million, respectively, for these services. In the opinion of the Company's management, the terms of these services are fair and reasonable and as favorable to the Company as those that could have been obtained from unrelated third parties at the time of their performance.

In July 2013, the Company agreed to lend up to $10.0 million to INOVA Geophysical, and received a promissory note issued by INOVA Geophysical to the order of the Company, which was scheduled to mature on September 30, 2013. The loan was made by the Company to support certain short-term working capital needs of INOVA Geophysical. The indebtedness under the note accrues interest at an annual rate equal to the London Interbank Offered Rate plus 650 basis points. In July 2013, the Company advanced the full principal amount of $10.0 million to INOVA Geophysical under the promissory note. During the second half of 2013, the Company received payments totaling $5.0 million from INOVA Geophysical on the loan. The maturity date of the note has been extended to March 31, 2014.

(20) Condensed Consolidating Financial Information

In May 2013, the Company sold $175 million of Senior Secured Second-Priority Notes. The notes were issued by ION Geophysical Corporation, and are guaranteed by 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 Guarantors"), which are 100-percent-owned subsidiaries. The Guarantors have fully and unconditionally guaranteed the payment obligations of ION Geophysical Corporation with respect to these debt securities. The following condensed consolidating financial information presents the results of operations, financial position and cash flows for:

- ION Geophysical Corporation and the guarantor subsidiaries (in each case, reflecting investments in subsidiaries utilizing the equity method of accounting).
- All other nonguarantor subsidiaries.
- The consolidating adjustments necessary to present ION Geophysical Corporation's results on a consolidated basis.

This condensed consolidating financial information should be read in conjunction with the accompanying consolidated financial statements and notes.

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Balance Sheet	December 31, 2013 ION Geophysical Corporation	The Guarantors	All Other Subsidiaries	Consolidating Adjustments	Total Consolidated
	(In thousands)				
ASSETS					
Current assets:					
Cash and cash equivalents	$124,701	$—	$23,355	$—	$148,056
Accounts receivable, net	1,874	99,547	48,027	—	149,448
Unbilled receivables	—	33,490	15,978	—	49,468
Inventories	—	6,595	50,578	—	57,173
Prepaid expenses and other current assets	12,888	5,030	7,438	(584)	24,772
Total current assets	139,463	144,662	145,376	(584)	428,917
Deferred income tax asset	6,513	6,960	489	688	14,650
Property, plant, equipment and seismic rental equipment, net	6,440	29,845	10,399	—	46,684
Multi-client data library, net	—	212,572	26,212	—	238,784
Equity method investments	51,065	—	2,800	—	53,865
Investment in subsidiaries	699,695	248,482	—	(948,177)	—
Goodwill	—	26,984	28,892	—	55,876
Intangible assets, net	—	8,246	3,001	—	11,247
Intercompany receivables	8,313	13,419	—	(21,732)	—
Other assets	14,315	56	24,262	(23,985)	14,648
Total assets	$925,804	$691,226	$241,431	$(993,790)	$864,671
LIABILITIES AND EQUITY					
Current liabilities:					
Current maturities of long-term debt	$—	$4,716	$1,190	$—	$5,906
Accounts payable	3,515	11,741	7,364	34	22,654
Accrued expenses	16,652	54,250	13,392	64	84,358
Accrued multi-client data library royalties	—	45,921	539	—	46,460
Deferred revenue	—	16,387	4,295	—	20,682
Total current liabilities	20,167	133,015	26,780	98	180,060
Long-term debt, net of current maturities	210,000	3,655	591	—	214,246
Intercompany payables	426,134	—	21,732	(447,866)	—
Other long-term liabilities	11,757	214,211	8,637	(24,003)	210,602
Total liabilities	668,058	350,881	57,740	(471,771)	604,908
Redeemable noncontrolling interests	—	—	1,878	—	1,878
Stockholders' equity:					
Common stock	1,637	290,460	19,138	(309,598)	1,637
Additional paid-in capital	879,969	180,700	235,381	(416,081)	879,969
Accumulated earnings (deficit)	(606,157)	232,186	(4,010)	(228,176)	(606,157)
Accumulated other comprehensive income (loss)	(11,138)	6,218	(11,920)	5,702	(11,138)
Due from ION Geophysical Corporation	—	(369,219)	(56,915)	426,134	—
Treasury stock	(6,565)	—	—	—	(6,565)
Total stockholders' equity	257,746	340,345	181,674	(522,019)	257,746
Noncontrolling interests	—	—	139	—	139
Total equity	257,746	340,345	181,813	(522,019)	257,885
Total liabilities and equity	$925,804	$691,226	$241,431	$(993,790)	$864,671

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Balance Sheet	December 31, 2012 ION Geophysical Corporation	The Guarantors	All Other Subsidiaries	Consolidating Adjustments	Total Consolidated
	(In thousands)				
ASSETS					
Current assets:					
Cash and cash equivalents	$30,343	$—	$30,628	$—	$60,971
Accounts receivable, net	21,657	51,270	54,071	138	127,136
Unbilled receivables	—	74,715	15,069	—	89,784
Inventories	—	14,145	56,530	—	70,675
Prepaid expenses and other current assets	7,258	7,079	13,723	(2,455)	25,605
Total current assets	59,258	147,209	170,021	(2,317)	374,171
Deferred income tax asset	16,747	6,167	151	5,349	28,414
Property, plant, equipment and seismic rental equipment, net	4,048	19,118	10,595	11	33,772
Multi-client data library, net	—	202,838	27,477	—	230,315
Equity method investments	73,925	—	—	—	73,925
Investment in subsidiaries	863,134	259,716	—	(1,122,850)	—
Goodwill	—	26,984	28,365	—	55,349
Intangible assets, net	—	10,677	4,164	—	14,841
Intercompany receivables	10,593	—	3,388	(13,981)	—
Other assets	9,501	122	30,173	(30,000)	9,796
Total assets	$1,037,206	$672,831	$274,334	$(1,163,788)	$820,583
LIABILITIES AND EQUITY					
Current liabilities:					
Current maturities of long-term debt	$—	$2,307	$1,189	$—	$3,496
Accounts payable	3,734	13,568	11,386	—	28,688
Accrued expenses	49,582	59,100	17,153	(1,740)	124,095
Accrued multi-client data library royalties	—	26,082	218	—	26,300
Deferred revenue	—	19,863	7,036	—	26,899
Total current liabilities	53,316	120,920	36,982	(1,740)	209,478
Long-term debt, net of current maturities	97,250	2,857	1,725	—	101,832
Intercompany payables	375,768	13,981	—	(389,749)	—
Other long-term liabilities	12,387	20,000	961	(25,217)	8,131
Total liabilities	538,721	157,758	39,668	(416,706)	319,441
Redeemable noncontrolling interests	—	—	2,123	—	2,123
Stockholders' equity:					
Cumulative convertible preferred stock	27,000	—	—	—	27,000
Common stock	1,564	290,460	11,506	(301,966)	1,564
Additional paid-in capital	848,669	175,006	235,116	(410,122)	848,669
Accumulated earnings (deficit)	(360,297)	400,932	16,732	(417,664)	(360,297)
Accumulated other comprehensive income (loss)	(11,886)	5,639	(12,541)	6,902	(11,886)
Due from ION Geophysical Corporation	—	(356,964)	(18,804)	375,768	—
Treasury stock	(6,565)	—	—	—	(6,565)
Total stockholders' equity	498,485	515,073	232,009	(747,082)	498,485
Noncontrolling interests	—	—	534	—	534
Total equity	498,485	515,073	232,543	(747,082)	499,019

Total liabilities and equity	$1,037,206	$672,831	$274,334	$(1,163,788)	$820,583

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	Year Ended December 31, 2013				
Income Statement	ION Geophysical Corporation	The Guarantors	All Other Subsidiaries	Consolidating Adjustments	Total Consolidated
	(In thousands)				
Total net revenues	$—	$337,570	$213,826	$(2,229)	$549,167
Cost of goods sold	—	240,704	151,379	(2,229)	389,854
Gross profit	—	96,866	62,447	—	159,313
Total operating expenses	35,054	62,028	45,835	—	142,917
Income (loss) from operations	(35,054)	34,838	16,612	—	16,396
Interest expense, net	(12,102)	(49)	(193)	—	(12,344)
Intercompany interest, net	411	(1,374)	963	—	—
Equity in earnings (losses) of investments	(192,220)	(19,755)	(19,833)	189,488	(42,320)
Other income (expense)	12,166	(193,289)	(1,407)	—	(182,530)
Income (loss) before income taxes	(226,799)	(179,629)	(3,858)	189,488	(220,798)
Income tax expense (benefit)	19,061	(10,883)	17,542	—	25,720
Net income (loss)	(245,860)	(168,746)	(21,400)	189,488	(246,518)
Net loss attributable to noncontrolling interests	—	—	658	—	658
Net income (loss) attributable to ION	(245,860)	(168,746)	(20,742)	189,488	(245,860)
Payment of preferred dividends and conversion payment	6,014	—	—	—	6,014
Net income (loss) applicable to common shares	$(251,874)	$(168,746)	$(20,742)	$189,488	$(251,874)
Comprehensive net income (loss)	$(245,112)	$(168,167)	$(20,779)	$188,288	$(245,770)
Comprehensive loss attributable to noncontrolling interest	—	—	658	—	658
Comprehensive net income (loss) attributable to ION	$(245,112)	$(168,167)	$(20,121)	$188,288	$(245,112)

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	Year Ended December 31, 2012				
Income Statement	ION Geophysical Corporation	The Guarantors	All Other Subsidiaries	Consolidating Adjustments	Total Consolidated
	(In thousands)				
Total net revenues	$—	$311,758	$214,939	$(380)	$526,317
Cost of goods sold	—	192,639	118,257	(380)	310,516
Gross profit	—	119,119	96,682	—	215,801
Total operating expenses	35,982	61,315	43,977	—	141,274
Income (loss) from operations	(35,982)	57,804	52,705	—	74,527
Interest expense, net	(5,137)	198	(326)	—	(5,265)
Intercompany interest, net	232	(629)	397	—	—
Equity in earnings (losses) of investments	58,162	33,958	—	(91,823)	297
Other income (expense)	29,447	(10,334)	(1,989)	—	17,124
Income (loss) before income taxes	46,722	80,997	50,787	(91,823)	86,683
Income tax expense (benefit)	(16,593)	21,771	18,679	—	23,857
Net income (loss)	63,315	59,226	32,108	(91,823)	62,826
Net loss attributable to noncontrolling interests	—	—	489	—	489
Net income (loss) attributable to ION	63,315	59,226	32,597	(91,823)	63,315
Preferred stock dividends	1,352	—	—	—	1,352
Net income (loss) applicable to common shares	$61,963	$59,226	$32,597	$(91,823)	$61,963
Comprehensive net income (loss)	$67,622	$62,085	$34,967	$(97,541)	$67,133
Comprehensive loss attributable to noncontrolling interest	—	—	489	—	489
Comprehensive net income (loss) attributable to ION	$67,622	$62,085	$35,456	$(97,541)	$67,622

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	Year Ended December 31, 2011				
Income Statement	ION Geophysical Corporation	The Guarantors	All Other Subsidiaries	Consolidating Adjustments	Total Consolidated
	(In thousands)				
Total net revenues	$—	$254,084	$201,320	$(783)	$454,621
Cost of goods sold	—	163,349	118,248	(421)	281,176
Gross profit	—	90,735	83,072	(362)	173,445
Total operating expenses	26,504	44,205	36,303	(362)	106,650
Income (loss) from operations	(26,504)	46,530	46,769	—	66,795
Interest expense, net	(5,804)	172	(152)	—	(5,784)
Intercompany interest, net	182	(507)	325	—	—
Equity in earnings (losses) of investments	44,051	38,931	—	(105,844)	(22,862)
Other income (expense)	(1,278)	(106)	(2,063)	—	(3,447)
Income (loss) before income taxes	10,647	85,020	44,879	(105,844)	34,702
Income tax expense (benefit)	(14,127)	16,076	8,187	—	10,136
Net income (loss)	24,774	68,944	36,692	(105,844)	24,566
Net loss attributable to noncontrolling interests	—	—	208	—	208
Net income (loss) attributable to ION	24,774	68,944	36,900	(105,844)	24,774
Preferred stock dividends	1,352	—	—	—	1,352
Net income (loss) applicable to common shares	$23,422	$68,944	$36,900	$(105,844)	$23,422
Comprehensive net income (loss)	$24,111	$68,909	$36,657	$(105,774)	$23,903
Comprehensive loss attributable to noncontrolling interest	—	—	208	—	208
Comprehensive net income (loss) attributable to ION	$24,111	$68,909	$36,865	$(105,774)	$24,111

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	Year Ended December 31, 2013				
Statement of Cash Flows	ION Geophysical Corporation	The Guarantors	All Other Subsidiaries	Consolidating Adjustments	Total Consolidated
	(In thousands)				
Cash flows from operating activities:					
Net cash provided by (used in) operating activities	$(50,731)	$166,838	$31,480	$—	$147,587
Cash flows from investing activities:					
Investment in multi-client data library	—	(111,689)	(2,893)	—	(114,582)
Purchase of property, plant, equipment and seismic rental equipment	(2,075)	(10,171)	(4,668)	—	(16,914)
Net advances to INOVA Geophysical	(5,000)	—	—	—	(5,000)
Investment in and advances to OceanGeo B.V.	—	—	(24,755)	—	(24,755)
Proceeds from sale of a cost method investment	4,150	—	—	—	4,150
Investment in convertible notes	(2,000)	—	—	—	(2,000)
Capital contribution to affiliate	(5,695)	(7,897)	—	13,592	—
Other investing activities	—	128	—	—	128
Net cash provided by (used in) investing activities	(10,620)	(129,629)	(32,316)	13,592	(158,973)
Cash flows from financing activities:					
Proceeds from issuance of notes	175,000	—	—	—	175,000
Payments under revolving line of credit	(97,250)	—	—	—	(97,250)
Borrowings under revolving line of credit	35,000	—	—	—	35,000
Payments on notes payable and long-term debt	—	(3,249)	(1,112)	—	(4,361)
Cost associated with issuance of notes	(6,773)	—	—	—	(6,773)
Capital contribution from affiliate	—	5,695	7,897	(13,592)	—
Intercompany lending	52,646	(39,655)	(12,991)	—	—
Payment of preferred dividends and conversion payment	(6,014)	—	—	—	(6,014)
Proceeds from employee stock purchases and exercise of stock options	2,527	—	—	—	2,527
Excess tax benefit from stock-based compensation	276	—	—	—	276
Contribution from noncontrolling interests	—	—	—	—	—
Other financing activities	297	—	—	—	297
Net cash provided by (used in) financing activities	155,709	(37,209)	(6,206)	(13,592)	98,702
Effect of change in foreign currency exchange rates on cash and cash equivalents	—	—	(231)	—	(231)
Net increase (decrease) in cash and cash equivalents	94,358	—	(7,273)	—	87,085
Cash and cash equivalents at beginning of period	30,343	—	30,628	—	60,971
Cash and cash equivalents at end of period	$124,701	$—	$23,355	$—	$148,056

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	Year Ended December 31, 2012				
Statement of Cash Flows	ION Geophysical Corporation	The Guarantors	All Other Subsidiaries	Consolidating Adjustments	Total Consolidated
	(In thousands)				
Cash flows from operating activities:					
Net cash provided by (used in) operating activities	$19,362	$105,768	$43,951	$—	$169,081
Cash flows from investing activities:					
Investment in multi-client data library	—	(121,424)	(24,203)	—	(145,627)
Purchase of property, plant, equipment and seismic rental equipment	(2,485)	(9,947)	(4,218)	—	(16,650)
Maturity (net purchases) of short-term investments	20,000	—	—	—	20,000
Investment in convertible notes	(2,000)	—	—	—	(2,000)
Net cash provided by (used in) investing activities	15,515	(131,371)	(28,421)	—	(144,277)
Cash flows from financing activities:					
Payments under revolving line of credit	(51,000)	—	—	—	(51,000)
Borrowings under revolving line of credit	148,250	—	—	—	148,250
Payments on notes payable and long-term debt	(99,270)	(1,626)	(806)	—	(101,702)
Intercompany lending	(21,699)	27,229	(5,530)	—	—
Payment of preferred dividends	(1,352)	—	—	—	(1,352)
Proceeds from employee stock purchases and exercise of stock options	807	—	—	—	807
Excess tax benefit from stock-based compensation	193	—	—	—	193
Contribution from noncontrolling interests	—	—	212	—	212
Other financing activities	(1,862)	—	—	—	(1,862)
Net cash provided by (used in) financing activities	(25,933)	25,603	(6,124)	—	(6,454)
Effect of change in foreign currency exchange rates on cash and cash equivalents	2	—	217	—	219
Net increase (decrease) in cash and cash equivalents	8,946	—	9,623	—	18,569
Cash and cash equivalents at beginning of period	21,397	—	21,005	—	42,402
Cash and cash equivalents at end of period	$30,343	$—	$30,628	$—	$60,971

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	Year Ended December 31, 2011				
Statement of Cash Flows	ION Geophysical Corporation	The Guarantors	All Other Subsidiaries	Consolidating Adjustments	Total Consolidated
	(In thousands)				
Cash flows from operating activities:					
Net cash provided by (used in) operating activities	$(19,240)	$110,802	$38,422	$—	$129,984
Cash flows from investing activities:					
Investment in multi-client data library	—	(133,207)	(10,575)	—	(143,782)
Purchase of property, plant, equipment and seismic rental equipment	(1,564)	(4,663)	(4,833)	—	(11,060)
Maturity (net purchases) of short-term investments	(20,000)	—	—	—	(20,000)
Investment in convertible notes	(6,500)	—	—	—	(6,500)
Capital contribution to affiliate	—	(750)	—	750	—
Other investing activities	(137)	—	(143)	—	(280)
Net cash used in investing activities	(28,201)	(138,620)	(15,551)	750	(181,622)
Cash flows from financing activities:					
Payments on notes payable and long-term debt	(4,000)	(1,535)	(610)	—	(6,145)
Capital contribution from affiliate	—	—	750	(750)	—
Intercompany lending	(7,387)	29,353	(21,966)		—
Payment of preferred dividends	(1,352)	—	—	—	(1,352)
Proceeds from employee stock purchases and exercise of stock options	13,105	—	—	—	13,105
Excess tax benefit from stock-based compensation	3,294	—	—	—	3,294
Contribution from noncontrolling interests	—	—	961	—	961
Other financing activities	(59)	—	—	—	(59)
Net cash provided by (used in) financing activities	3,601	27,818	(20,865)	(750)	9,804
Effect of change in foreign currency exchange rates on cash and cash equivalents	(15)	—	(168)		(183)
Net increase (decrease) in cash and cash equivalents	(43,855)	—	1,838	—	(42,017)
Cash and cash equivalents at beginning of period	65,252	—	19,167		84,419
Cash and cash equivalents at end of period	$21,397	$—	$21,005	$—	$42,402

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SCHEDULE II
ION GEOPHYSICAL CORPORATION AND SUBSIDIARIES
VALUATION AND QUALIFYING ACCOUNTS

Year Ended December 31, 2011	Balance at Beginning of Year	Charged (Credited) to Costs and Expenses	Deductions	Balance at End of Year
	(In thousands)			
Allowances for doubtful accounts	$845	$597	$(244)	$1,198
Warranty	784	1,165	(1,234)	715
Valuation allowance on deferred tax assets	62,700	6,775	—	69,475
Excess and obsolete inventory	12,876	567	(406)	13,037
Year Ended December 31, 2012	Balance at Beginning of Year	Charged (Credited) to Costs and Expenses	Deductions	Balance at End of Year
	(In thousands)			
Allowances for doubtful accounts	$1,198	$5,811	$(298)	$6,711
Warranty	715	1,258	(932)	1,041
Valuation allowance on deferred tax assets	69,475	(6,214)	—	63,261
Excess and obsolete inventory	13,037	1,326	(124)	14,239
Year Ended December 31, 2013	Balance at Beginning of Year	Charged (Credited) to Costs and Expenses	Deductions	Balance at End of Year
	(In thousands)			
Allowances for doubtful accounts	$6,711	$12,040	$(11,529)	$7,222
Warranty	1,041	538	(936)	643
Valuation allowance on deferred tax assets	63,261	88,112	(338)	151,035
Excess and obsolete inventory	14,239	18,644	(328)	32,555

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EXHIBIT INDEX

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.

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**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.
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	—	Agreement dated as of February 15, 2005, between Input/Output, Inc. and Fletcher International, Ltd., filed on February 17, 2005 as Exhibit 10.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.

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10.25	—	First Amendment to Agreement, dated as of May 6, 2005, between the Company and Fletcher International, Ltd., filed on May 10, 2005 as Exhibit 10.2 to the Company's Current Report on Form 8-K, and incorporated herein by reference.
**10.26	—	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.
**10.27	—	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.
**10.28	—	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.
10.29	—	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.
10.30	—	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.
10.31	—	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.
10.32	—	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.
10.33	—	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.
10.34	—	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.
10.35	—	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.
10.36	—	Credit Agreement dated as of March 25, 2010, by and among ION Geophysical Corporation, ION International S.À R.L. and China Merchants Bank Co., Ltd., New York Branch, as administrative agent and lender, filed on March 31, 2010 as Exhibit 10.5 to the Company's Current Report on Form 8-K, and incorporated herein by reference.
**10.37	—	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.
**10.38	—	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.

**10.39	—	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.
**10.40	—	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.
**10.41	—	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.

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10.42	—	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.
10.43	—	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.
10.44	—	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.
*21.1	—	Subsidiaries of the Company.
*23.1	—	Consent of Ernst & Young LLP.
*24.1	—	The Power of Attorney is set forth on the signature page hereof.
*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, 2013 and 2012, (ii) Consolidated Statements of Operations for the years ended December 31, 2013, 2012 and 2011, (iii) Comprehensive Income (Loss) for the years ended December 31, 2013, 2012 and 2011, (iv) Consolidated Statements of Cash Flows for the years ended December 31, 2013, 2012 and 2011, (v) Consolidated Statements of Stockholders' Equity for the years ended December 31, 2013, 2012 and 2011, (vi) Notes to Consolidated Financial Statements and (vii) Schedule II – Valuation and Qualifying Accounts.

* Filed herewith.

** Management contract or compensatory plan or arrangement.