



# 2012 ANNUAL REPORT

Notice of 2013 Annual Meeting  
Proxy Statement



→ Charged to innovate. Driven to solve.™



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## 2012 HIGHLIGHTS

- Grew revenue by 16% and EPS by 160%
- Recorded largest operating income since 1998 and the second largest in company history
- Introduced new Calypso™ next generation VSO seabed acquisition system and new WiBand™ broadband processing technology
- Generated record multi-client, data processing, and software revenues
- Entered 3D marine multi-client business with large program
- Added 34,400 km to BasinSPAN™ data library, bringing total to 345,500 km
- Completed seventh season of Arctic acquisition
- Made record investment in multi-client programs of \$146 million

# Letter to SHAREHOLDERS



**R. Brian Hanson**  
President and Chief Executive Officer

2012 was a very good year for ION. We started off strong, with one of our best first quarters ever in terms of revenue, operating income, and net income. For the year, we generated \$526 million in revenues, up 16% from 2011. We recorded our largest operating income since 1998 and the second largest in our history. Gross margins were up three points, and we delivered \$0.39 in earnings per share to our shareholders, an increase of 160% from 2011.

It was also a good year for the industry. According to industry research, capital expenditures by E&P companies increased about 10%, led by growth in international exploration, particularly offshore Latin America, China, India, Asia, Australia, the Middle East, and Africa.

While ION benefitted from these favorable market conditions, I attribute our success in large part to our steadfast commitment to our strategy of providing E&P companies with high-value geophysical solutions that leverage – and pull through sales of – our key technologies. Our strategy to transform ION into a provider of integrated geophysical solutions to the global E&P industry is working. Working directly with E&P companies allows us to demonstrate the value of our technologies to them, which develops more lasting relationships, and generates higher quality revenue streams. We've set a goal to generate at least 85% of our revenues from E&P companies by 2017. In 2009, we were at 45%. In 2012, we reached 67%.

To better align our business to execute the strategy, we made

some organizational changes in 2012. We hired industry veteran Chris Usher to serve as Executive Vice President and Chief Operating Officer of a new ION GeoScience division, which brought together our GX Technology (GXT) data processing and Concept Systems software business units. We also expanded the scope of our data processing R&D group within GXT to provide geophysical R&D across all of ION. At the same time, Ken Williamson was promoted to Executive Vice President and Chief Operating Officer of our GeoVentures® division, which leverages the full capabilities of ION, including GXT's leading processing technologies and services, to deliver integrated E&P solutions. These two divisions have been our major growth contributors over the last several years, and we expect them to continue to lead our growth forward.

2012 was a year of change for the seismic industry. One of the more significant trends was the introduction and uptake of new broadband technologies for acquisition and processing of seismic data, to tackle the problem of "ghost notches" that have traditionally limited resolution in the marine environment. Ghost notches are produced when an upcoming seismic event reflects down from the water surface and interferes with the upcoming signal measured at the hydrophone on the streamer. The effect of the notches is to significantly degrade the sharpness and quality of the subsurface images. Other companies have produced broadband solutions that rely on specialized marine acquisition and processing. These solutions to date have not been applicable to conventional, "flat" streamer data, despite the fact that the vast majority of data was, and still is, acquired with this flat streamer configuration.



To address this challenge, in June, at the European Association of Geoscientists and Engineers (EAGE) show in Copenhagen, we introduced a new data processing technique we call WiBand. WiBand delivers better images — broadband results — when processing new data or reprocessing existing data acquired using conventional, flat streamers and eliminates the effects of the ghost notch. We believe this new technology has tremendous potential to fulfill an unmet need, and it has been very well received. Since introducing WiBand, we have been awarded several key projects that include WiBand in the workflow, across the Gulf of Mexico, Latin America, Asia Pacific, the North Sea, and Africa. About a third of our data processing pipeline contains WiBand opportunities, and our GeoVentures group is now integrating WiBand into more of their programs as well.

Another key industry trend in 2012 was the continued increase in demand for seabed seismic acquisition. Prompting this growth is seabed's unique ability to deliver phenomenal image quality, resolve geophysical challenges other methods cannot, and operate in areas difficult to access. Despite its increasing popularity, though, seabed still represents a relatively small but growing percentage of the total marine seismic market. Historically, seabed acquisition costs have been high and cycle times long relative to towed streamer acquisition. To narrow the gap, at the EAGE show in June, we

launched Calypso, our next generation VectorSeis® Ocean (VSO) seabed acquisition system. Calypso leverages our industry leading VectorSeis sensor to deliver superior images, while significantly reducing costs and cycle time and also increasing operating depths. We will have more to report on Calypso as 2013 progresses.

As I mentioned earlier, consistent with our strategy of providing high-value solutions to E&P companies, our growth in 2012 was led by our Solutions segment, which includes our GXT data processing and GeoVentures multi-client businesses. Solutions segment revenues for 2012 increased 33% to \$351 million, primarily as a result of 50% growth in new venture revenues, 30% growth in data processing, and 15% growth in library sales.

As of the fourth quarter of 2012, GXT Data Processing delivered seven sequential quarters of revenue growth, finishing the year at a record \$116 million. The market for data processing services remains strong, based on demand in both the Gulf of Mexico and internationally, particularly in Europe, Africa, and the Middle East. We saw a continued focus from our clients on large, long-term contracts. To meet the needs of the market in 2012, we increased our technical professional staff by 15% and expanded our global data processing footprint, opening new data processing centers in Oklahoma City and India.





Our GeoVentures division had another exceptional year, delivering record revenues of \$235 million, driven by a combination of healthy library sales and a substantial increase in new venture projects. Our new ventures revenues of \$147 million exceeded our \$146 million of multi-client investments. We completed acquisition of several new 2D BasinSPAN marine programs offshore Brazil, Africa, and Uruguay and in the Arctic, and a land BasinSPAN program in Europe, adding about 35,000 km to our global data library.

Our BasinSPAN data is increasingly being used by oil & gas companies and national governments to support upcoming licensing rounds.

Several recent large discoveries offshore East Africa have created tremendous interest in the region. We have been engaged to assist the Tanzania Petroleum Development Corporation, or TPDC, in managing the upcoming licensing round consisting of nine new deepwater blocks. In anticipation of the upcoming licensing round, in 2012, we completed our fourth survey offshore Tanzania. Our data has provided the framework from which the TPDC can evaluate, on technical and commercial levels, the value of their offshore blocks to be included in the upcoming licensing round. As a result, we have seen, and expect to continue to see, an uplift in demand for our East AfricaSPAN™ library, which contains over 20,000 km of depth-imaged 2D data.

The Arctic contains an estimated 25% of the world's undiscovered hydrocarbon resources, and ION is an established leader in seismic in the Arctic. In 2012, we completed a new gravity gradiometry program in Greenland, which is being integrated into our 2D dataset to give oil companies a 3D structural interpretation over a 50,000-square-kilometer area coincident with the areas included in the 2012 and 2013 license rounds off Northeast Greenland. It is in complex, challenging environments such as this that we excel in solving some of the industry's toughest challenges. This area, in particular, with its ice covered waters, would be extremely difficult



to shoot with today's 3D conventional seismic. Since 2006, we have acquired over 60,000 km of depth-imaged seismic data in the Beaufort and Chukchi seas, and offshore Greenland, including over 30,000 km acquired under ice.

Another exploration hotspot is Brazil. Recent major discoveries in West Africa's Ghana and Ivory Coast, which are geologically similar to Brazil's Equatorial Margin basins, have increased interest among oil & gas companies in the conjugate margin in northern Brazil. Our BrasilSPAN™ program provides E&P companies with a regional depth-imaged framework to better understand the hydrocarbon potential of this exciting frontier region. In anticipation of the upcoming 11th Brazilian licensing round, in 2012, we added an additional 8,000 km of regional seismic data to our BrasilSPAN program, in the Equatorial Margin offshore northern and northeastern Brazil. This new data adds to the approximately 17,000 km of data we acquired in the region in 2009 and uniquely positions ION to provide the macro geologic framework that E&P companies will use to inform their exploration activities.

We're seeing the benefit of several years of investment in building a globally diverse data library. In 2012, we sold almost \$90 million from our data library programs, and about a third of those sales were from programs completed between 2002 and 2008,

demonstrating that our data holds value over a significant period of time. A notable example, we acquired NovaSPAN™, over 3,000 km of regional 2D data offshore Nova Scotia, in 2004. In 2010, we collaborated with the Nova Scotia government on their Play Fairway Analysis, by reprocessing our NovaSPAN data using GXT's latest processing techniques. That analysis was instrumental in driving new interest in licensing offshore Nova Scotia, resulting in over \$2 billion in exploration licenses while also driving new sales of our NovaSPAN data library. It demonstrates that older data can be refreshed to continue to add value to both the market and to ION.

While most of our multi-client activity in 2012 was in international offshore programs, we continued to make steady progress with our ResSCAN™ 3D land programs, to meet the demands of major oil companies who have entered the shale plays and are using seismic, including reservoir characterization, to optimize their drilling programs. As operators shifted operations from gas to liquid or mixed plays, we have turned our focus to those plays as well. We now have five programs either complete or underway encompassing 700 square miles across the Niobrara and Marcellus plays. Through these programs, we are proving the value of multicomponent data for understanding rock properties to help operators in these plays become more efficient at well location and maximize their highest priority wells, essential in today's oil and gas price environment. We're also proving our strategy of using these programs to pull through sales of seismic acquisition equipment. In 2012, our ResSCAN programs stimulated sales of 30,000 channels of INOVA's new Hawk™ cableless recording system to one of our primary acquisition contractors. We continue to position ourselves for the eventual resurgence of the North American gas market, as gas prices rebound and activity returns to more normal levels.

Our growth in 2012 was also supported by our Software segment, which achieved record revenues, up 13% over 2011, driven by healthy Concept Systems Orca® and Gator® command & control software sales. We also continued to experience solid growth in our

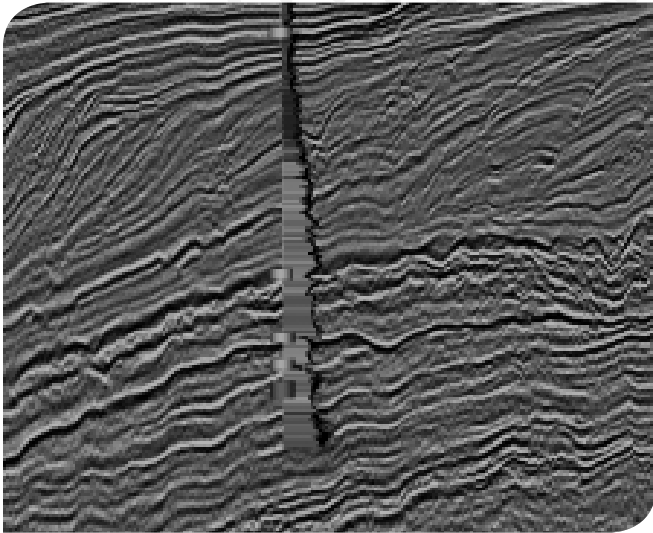
on-board acquisition optimization services business, strengthening our foothold and visibility into E&P companies. Since ION acquired Concept Systems in 2004, this business has grown revenues at an annual rate of 14%, delivering on our original investment nearly a 6X return in revenues and 3X return in operating income.

Our Systems segment revenues in 2012 were down 14% from 2011, due in large part to a large 12-streamer sale made in 2011 that was not replicated in 2012. We did make some smaller system sales during the year and enjoyed a steady repair and replacement business, but overall, our marine contractor customers remained cautious in their capex spending throughout the year, limiting new vessel builds. We continue, however, to invest strategically in R&D to drive our next generation of marine products.

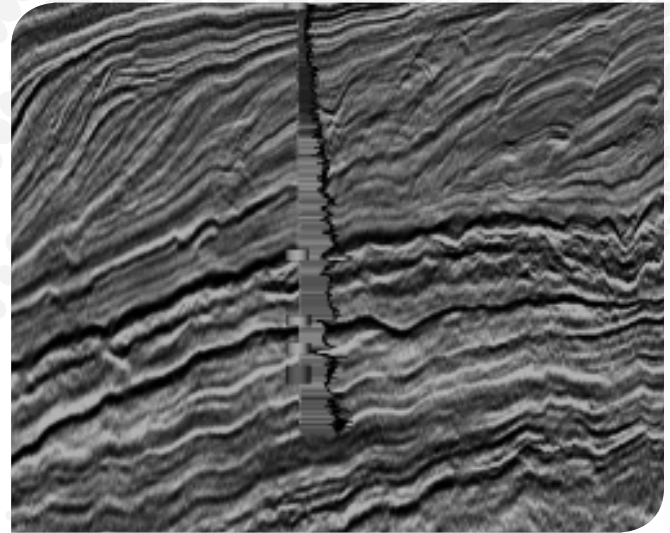
As expected, our joint venture company INOVA delivered a modest profit in 2012, and we are encouraged by the progress they are making in the market place. Market reception of their new product lines, their G3i™ cabled system and Hawk cableless system, has been positive, with over 80,000 channels of G3i sold in 2012. G3i features a new analog-digital chipset, capable of delivering exceptional geophysical performance. It has a high channel count of 100,000 channels per baseline, with the lowest measured power per channel in the industry, which reduces the number of batteries on the crew. And it's packaged in the toughest housing in the industry. It's built to last, and we expect this product to continue to sell very well, as demonstrated in 2012.

Looking ahead, we intend to stay steadfast in executing our strategy of developing and delivering high-value solutions to help E&P companies de-risk their exploration portfolios. E&P capex and seismic spending are expected to increase approximately 7% in 2013, more so in international offshore exploration. We are very well positioned to capitalize on this trend, especially in our data processing and multi-client businesses.





Conventional Seismic



WiBand Seismic

Our GXT data processing unit is running at full throttle, with a much more diversified international mix of customers. The strategy we adopted in 2011 in the face of the Macondo incident — to hold on to our processing capacity and to diversify more internationally — has paid off. We ended 2012 with a solid data processing backlog, positioning us well for 2013.

GeoVentures ended the year with a solid pipeline, and we are well positioned for upcoming licensing rounds offshore Brazil, Australia, East Africa, Indonesia, and Greenland. In 2012, we entered the 3D marine multi-client market with a large 3D survey, and we see this as an area of growth for us in 2013 and beyond. We anticipate our 2013 investment in our multi-client data library to again be in the range of \$140 million - \$160 million, a third year in this range, building on our global library.

We continue to invest in marine acquisition technologies and to evolve our strategy for bringing them to market via integrated E&P solutions. In early 2013, we acquired a 30% ownership in GeoRXT, a seabed seismic acquisition company located in Brazil. We are currently exploring opportunities to increase our ownership to 50% and expand the joint venture into a global, fully integrated seabed seismic company that leverages ION's strengths, including

GeoVentures project origination and global relationships and GXT data processing and reservoir services. We believe a fully integrated seabed seismic company, backed by two strong partners, will be well positioned to succeed in the fast growing seabed market. The joint venture will accelerate our ability to improve the Calypso technology and quickly integrate it into operations, making what we expect to be the most productive seabed acquisition system even more productive.

We believe 2013 will be another solid year for ION, and we thank you for your continued confidence.

Regards,

R. Brian Hanson  
President and Chief Executive Officer

# ABOUT ION

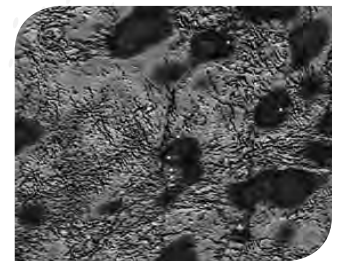


## THE COMPANY

ION Geophysical Corporation (NYSE: IO) is a leading provider of geophysical technology, services, and solutions to the global oil & gas industry. Our offerings are designed to allow E&P operators to obtain higher resolution images of the subsurface to reduce the risk of exploration and reservoir development, and to enable seismic contractors to acquire geophysical data safely and efficiently.

## INDUSTRY CONTEXT

Seismic imaging plays a fundamental role in hydrocarbon exploration and reservoir development by delineating structures, rock types, and fluid locations in the subsurface. Geoscientists interpret seismic data to identify new sources of hydrocarbons and pinpoint drilling locations for wells, which can be costly and high risk. As oil & gas reservoirs become harder to find and more expensive to develop and produce, the demand for advanced seismic imaging solutions continues to grow. In addition, seismic technologies are now being applied more broadly over the entire lifecycle of a hydrocarbon reservoir to optimize production.



## OUR CUSTOMERS

ION serves two primary customer segments — oil & gas companies and seismic contractors. Oil & gas companies are the ultimate end-users of seismic data. Our clients — including supermajors, international and national oil companies, and independent producers — engage us directly to design seismic surveys, provide advanced processing and reservoir characterization services, purchase licenses to our seismic data libraries, or secure our program management services for integrated, end-to-end seismic imaging and reservoir characterization projects. Seismic contractors purchase our imaging equipment and software to acquire high-quality seismic data on behalf of their oil & gas company clients.

### QUICK FACTS

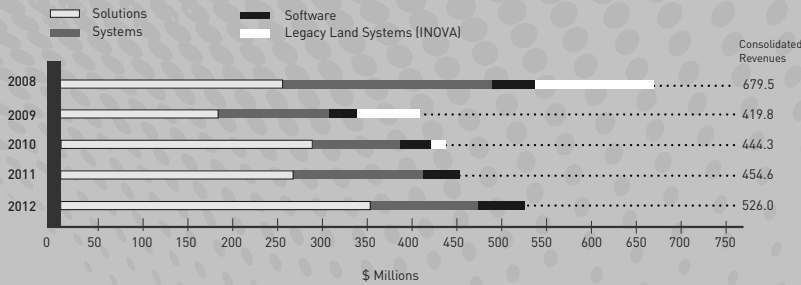
- Technology company
- Founded in 1968 as Input/Output - renamed ION Geophysical in 2007
- Headquartered in Houston, Texas
- Listed on the NYSE (Ticker: IO) since 1994
- ~1,100 full-time employees worldwide
- FY 2012 revenues - \$526 million
- \$1 billion market capitalization (fiscal year ending December 31, 2012)
- CEO R. Brian Hanson

### LOCATIONS

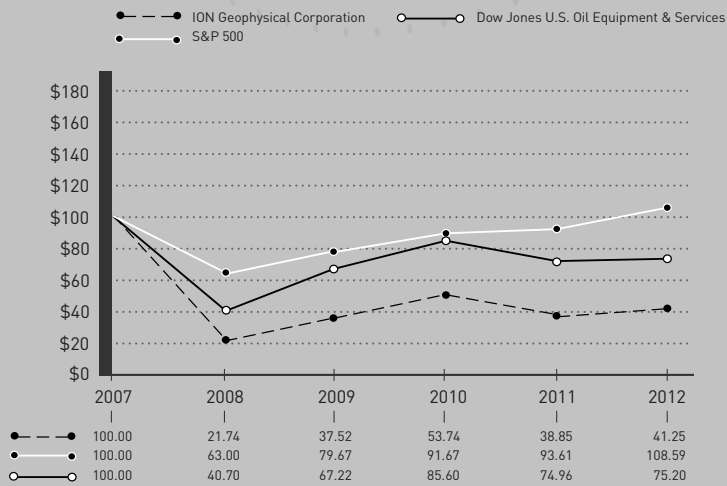
- AMERICAS
  - Calgary, Denver, Houston (2), New Orleans, Port-of-Spain (Trinidad), Villahermosa (Mexico), Rio de Janeiro (Brazil)
- ASIA PACIFIC
  - Beijing (China)
- EUROPE
  - Moscow, United Kingdom (3), Voorschoten (Holland)
- AFRICA AND THE MIDDLE EAST
  - Luanda (Angola), Port Harcourt (Nigeria), Dubai (UAE), Cairo (Egypt)



## ANNUAL REVENUES



## SHAREHOLDER RETURNS



This graph compares our cumulative total stockholder return on our common stock for the five years ending December 31, 2012, assuming reinvestment of dividends, with (i) the S&P 500 Index and (ii) the Dow Jones U.S. Oil Equipment and Services Index, an index of companies that we believe are comparable in terms of industry and their lines of business.

The graph assumes that \$100 was invested in our common stock and the above indices on January 1, 2008. We have not paid any dividends on our common stock during the applicable period. Historic stock price performance is not necessarily indicative of future stock price performance.

## ACQUISITION HISTORY

Over the years, ION has acquired proven technology and service companies to complement our existing solutions and to enhance our strategic growth initiatives. Major transactions since the early 1990s include:

### ARAM Systems (2008)

provider of cable-based land seismic recording systems

### GX Technology (2004)

advanced seismic data processing and imaging services, focusing on imaging projects offshore

### Concept Systems (2004)

data integration software, field services, and 4D consulting

### AXIS Geophysics (2002)

advanced seismic data processing and imaging services, focusing on imaging projects onshore

### Pelton (2001)

energy source control systems for land acquisition

### DigiCOURSE (1998)

marine streamer positioning and control systems

### Green Mountain Geophysics (1997)

survey design and planning software

### The Exploration Products Group of Western Geophysical (1995)

marine recording systems, land energy source systems, and

Sensor branded geophones

### Tescorp (1994)

cables and connectors for land and marine acquisition

## OUR STRATEGY

Since our founding in 1968 as Input/Output, a manufacturer of land seismic equipment, ION has evolved to become a leading provider of advanced, integrated geophysical solutions that help oil & gas companies and seismic contractors overcome their greatest imaging and operational challenges.

### Proven Innovators

ION has a rich history of innovation. We were the first to commercialize MEMS digital sensors, cableless acquisition technology using digital sensors, and the first to make streamer steering technology available industry wide. Our streamer positioning systems and command & control software have become the industry standards aboard marine seismic vessels. We were at the forefront of multicomponent, wide-azimuth acquisition and processing, and the first to make reverse time migration (RTM) available on a commercial scale. And since 2003, our BasinSPAN seismic data libraries have provided E&P companies a superior alternative to traditional 2D spec data.

### Unique Business Model

First and foremost, we are a technology company driven to develop and apply proven, innovative technologies and services to help our clients find and produce hydrocarbons as safely and efficiently as possible. Whether a company is sizing up the prospectivity of a frontier basin or working to extract maximum value from a mature reservoir, our team of experienced problem solvers can help them meet their objectives. Our strategy is to participate in the highest value of all aspects of the geophysical cycle – planning, acquisition, processing, and interpretation. Rather than invest in our own crews, we utilize third-party contractors for data acquisition on our new venture projects, freeing up our capital to invest in our greatest assets – our people and technologies.

## AREAS OF FOCUS

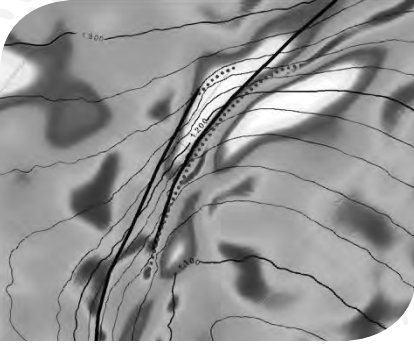
We focus on helping our clients overcome their toughest challenges in four areas:

- Challenging Environments, including the Arctic, shallow/obstructed water, transition zones, and desert
- Unconventional Reservoirs, including shales, tight gas, and oil sands
- Complex Geologies, such as deepwater subsurface salt in the Gulf of Mexico and offshore Brazil, sub basalt, thrust belt, and carbonates; and
- Basin Exploration, to help oil companies better assess the prospectivity of frontier basins



## MAJOR OFFERINGS

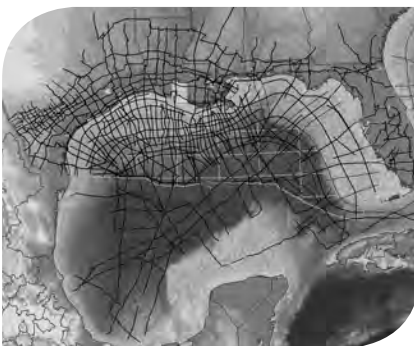
ION's offerings can be grouped into six major categories:



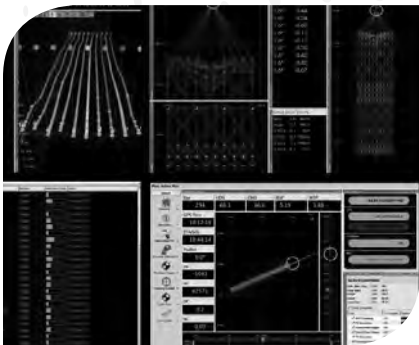
**Seismic data processing and reservoir imaging services.** By reputation, our GX Technology (GXT) group is one of the most technologically advanced seismic imaging teams in the industry. GXT operates processing service centers in Europe, West Africa, Russia, and the Americas from which we undertake complex imaging projects for oil & gas companies operating in both the marine and land environments. GXT competencies in advanced imaging include data conditioning, pre-stack depth migration (PreSDM), reverse time migration (RTM), tomographic and azimuthal velocity model building, and reservoir fracture detection. The GXT group has a large research effort in the rapidly emerging areas of converted wave and full-wave imaging, including the effects of subsurface anisotropy on recorded seismic data.



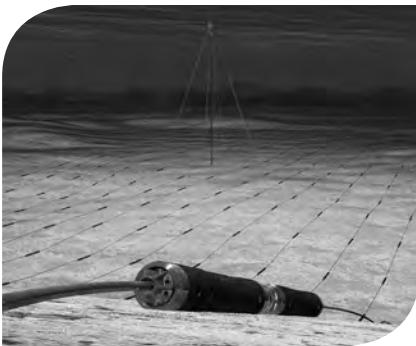
**Integrated geophysical programs.** Where seismic data does not exist or is not sufficient to meet an oil & gas company's imaging objectives, ION's GeoVentures group offers a start-to-finish, integrated imaging solution that includes survey design and planning, acquisition project management, advanced processing services, reservoir characterization services, and final image rendering. GeoVentures is unique in that we outsource field acquisition to experienced seismic contractors, thereby utilizing existing industry acquisition capacity while enabling us to focus on the most value-adding elements of the seismic program. Within a GeoVentures program, ION acts as project originator, "virtual contractor," and advanced imaging services provider.



**Seismic data libraries.** On many multi-client GeoVentures programs, ION retains the title to the data and is free to license it to others. The majority of the data libraries licensed by ION consist of ultra-deep 2D lines that oil & gas companies use to better evaluate the evolution of regional petroleum systems. Known as BasinSPANS, these ultra-deep 2D data programs cover virtually all major offshore petroleum provinces. And through our new ResSCAN 3D programs, we're applying the proven BasinSPAN formula of the right technology, the right expertise, and the right business model to help operators reduce development costs in both conventional and unconventional reservoirs.



**Survey design software & services.** Our software products and advisory services help our customers design their seismic surveys and make the tradeoffs between subsurface image quality and cost. The company has a special competence in designing surveys for the most challenging imaging applications, including full-wave (multicomponent) seismic surveys, imaging projects in desert and Arctic environments, and time-lapse (4D) programs.



**Marine seismic data acquisition equipment.** ION is one of the leading providers of seismic imaging systems and software for both towed streamer and seabed acquisition. Our comprehensive toolkit allows for one-stop shopping when outfitting modern streamer vessels or ocean bottom cable (OBC) crews, or when designing and implementing marine 4D programs. Our offerings span streamer positioning and control systems, sources and source control systems, streamer acquisition systems, VectorSeis-based seabed acquisition systems, marine acquisition software, and data integration and quality-assurance services.



**Land seismic data acquisition equipment.** Since our founding as a land seismic equipment company, ION has been at the forefront of technological innovation in land seismic equipment. In March 2010, ION and BGP (subsidiary of China National Petroleum Corporation) joined forces to form a new and independent company, INOVA. Poised to become the land seismic technology company of the 21st century, INOVA draws upon ION's rich tradition of innovation in land seismic product development, and the practical operating insights BGP has acquired as the world's largest land seismic contractor. INOVA's product portfolio of land seismic acquisition systems, sources, and sensors includes their new Hawk cableless recording system, their new G3i cabled system, and the award-winning VectorSeis digital, full-wave sensor.



# FINANCIAL HIGHLIGHTS

	years ended December 31		
	2012	2011	2010
	(in thousands, except per share data)		
<b>STATEMENT OF OPERATIONS DATA</b>			
Service revenues	\$ 354,583	\$ 265,586	\$ 279,120
Product revenues	171,734	189,035	165,202
Net revenues	526,317	454,621	444,322
Cost of services	219,324	177,956	183,931
Cost of products	91,192	103,220	94,658
Gross profit	215,801	173,445	165,733
Operating expenses:			
Research, development and engineering	34,080	24,569	25,227
Marketing and sales	35,240	31,269	30,405
General, administrative and other operating expenses	71,954	50,812	57,254
Total operating expenses	141,274	106,650	112,886
Income from operations	74,527	66,795	52,847
Interest expense, net	(5,265)	(5,784)	(30,770)
Equity in earnings (losses) of INOVA Geophysical	297	(22,862)	(23,724)
Other income (expense)	17,124	(3,447)	(8,249)
Income (loss) before income taxes	86,683	34,702	(9,896)
Income tax expense	23,857	10,136	26,942
Net income (loss)	62,826	24,566	(36,838)
Net income attributable to noncontrolling interests	489	208	—
Net income (loss) attributable to ION	63,315	24,774	(36,838)
Preferred stock dividends	1,352	1,352	1,936
Net income (loss) applicable to common shares	\$ 61,963	\$ 23,422	\$ (38,774)
Net income (loss) per basic share	\$ 0.40	\$ 0.15	\$ ( 0.27)
Net income (loss) per diluted share	\$ 0.39	\$ 0.15	\$ ( 0.27)
Weighted average number of common shares outstanding	155,801	154,811	144,278
Weighted average number of diluted shares outstanding	162,765	156,090	144,278
<b>Balance Sheet Data (end of year)</b>			
Working capital	\$ 164,693	\$ 163,677	\$ 171,851
Total assets	820,583	674,058	631,857
Notes payable and long-term debt	105,328	105,112	108,660
Total equity	499,019	425,812	380,447
<b>Other Data</b>			
Investment in multi-client library	\$ 145,627	\$ 143,782	\$ 64,426
Capital expenditures	14,877	11,060	7,372
Depreciation and amortization (other than multi-client library)	16,202	13,917	24,795
Amortization of multi-client library	89,080	77,317	85,940

The selected consolidated financial data set forth above with respect to our consolidated statements of operations for 2012, 2011 and 2010, and with respect to our consolidated balance sheets at December 31, 2012, 2011 and 2010 have been derived from our audited consolidated financial statements. Our results of operations and financial condition have been affected by legal settlements, dispositions, and debt refinancings during the periods presented, which affect the comparability of the financial information shown. For a detailed discussion of these items impacting the comparability of the financial information, please see Item 6. "Selected Financial Data" in our Annual Report on Form 10-K for the year ended December 31, 2012. Also, this information 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 our Annual Report on Form 10-K for the year ended December 31, 2012.



→ Charged to innovate. Driven to solve.™

**ION GEOPHYSICAL CORPORATION**  
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Houston, Texas 77042-2839  
(281) 933-3339

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**NOTICE OF ANNUAL MEETING OF STOCKHOLDERS**  
**To Be Held May 22, 2013**

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To ION's Stockholders:

The 2013 Annual Meeting of Stockholders of ION Geophysical Corporation will be held in the office of the company located at 2105 CityWest Boulevard, Houston, Texas, on Wednesday, May 22, 2013, at 10:30 a.m., local time, for the following purposes:

1. Elect the three directors named in the attached proxy statement to our Board of Directors, each to serve for a three-year term;
2. Vote to approve our 2013 Long-Term Incentive Plan;
3. Advisory (non-binding) vote to approve the compensation of our named executive officers;
4. Ratify the appointment of Ernst & Young LLP as our independent registered public accounting firm (independent auditors) for 2013; and
5. Consider any other business that may properly come before the annual meeting, or any postponement or adjournment of the meeting.

ION's Board of Directors has set April 1, 2013, as the record date for the meeting. This means that owners of ION common stock at the close of business on that date are entitled to receive this notice of meeting and vote at the meeting and any adjournments or postponements of the meeting. For your reference, directions to the meeting location are included in the proxy statement.

Your vote is very important, and your prompt cooperation in voting your proxy is greatly appreciated. Whether or not you plan to attend the meeting, please sign, date and return your enclosed proxy card as soon as possible so that your shares can be voted at the meeting.

By Authorization of the Board of Directors,

David L. Roland  
*Senior Vice President, General Counsel  
and Corporate Secretary*

April 16, 2013  
Houston, Texas

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**Important Notice Regarding the Availability of Proxy Materials  
For the Annual Stockholders' Meeting to be held on May 22, 2013**

**The proxy statement, proxy card and our 2012 annual report to stockholders  
are available at [www.iongeo.com](http://www.iongeo.com) under “Investor Relations — Investor Materials —  
Annual Reports.”**

The Annual Meeting of Stockholders of ION Geophysical Corporation will be held on May 22, 2013, at the offices of the company located at 2105 CityWest Boulevard, Houston, Texas, beginning at 10:30 a.m., local time.

The matters intended to be acted upon are:

1. Elect the three directors named in the attached proxy statement to our Board of Directors, each to serve for a three-year term;
2. Vote to approve our 2013 Long-Term Incentive Plan;
3. Advisory (non-binding) vote to approve the compensation of our named executive officers;
4. Ratify the appointment of Ernst & Young LLP as our independent registered public accounting firm (independent auditors) for 2013; and
5. Consider any other business that may properly come before the annual meeting, or any postponement or adjournment of the meeting.

The Board of Directors recommends voting in favor of the nominees listed in the proxy statement, the approval of our 2013 Long-Term Incentive Plan, the compensation of our named executive officers and the ratification of the appointment of Ernst & Young LLP.

The following proxy materials are being made available at the website location specified above:

1. The proxy statement for the 2013 Annual Meeting of Stockholders and the 2012 annual report to stockholders; and
2. The form of proxy card being distributed to stockholders in connection with the 2013 Annual Meeting of Stockholders.

Directions to the annual meeting are also provided in the accompanying proxy statement under *“About the Meeting — Where will the Annual Meeting be held?”*



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**ION GEOPHYSICAL CORPORATION**  
**2105 CityWest Boulevard, Suite 400**  
**Houston, Texas 77042-2839**  
**(281) 933-3339**

April 16, 2013

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**PROXY STATEMENT**  
**FOR ANNUAL MEETING OF STOCKHOLDERS**  
**To Be Held May 22, 2013**

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Our Board of Directors is furnishing you this proxy statement to solicit proxies on its behalf to be voted at the 2013 Annual Meeting of Stockholders of ION Geophysical Corporation (“ION”). The meeting will be held at 2105 CityWest Boulevard, Houston, Texas, on May 22, 2013, at 10:30 a.m., local time. The proxies also may be voted at any adjournments or postponements of the meeting.

The mailing address of our principal executive offices is 2105 CityWest Boulevard, Suite 400, Houston, Texas 77042-2839. We are mailing the proxy materials to our stockholders beginning on or about April 16, 2013.

All properly completed and returned proxies for the annual meeting will be voted at the meeting in accordance with the directions given in the proxy, unless the proxy is revoked before the meeting.

Only owners of record of our outstanding shares of common stock on April 1, 2013 are entitled to vote at the meeting, or at adjournments or postponements of the meeting. Each owner of common stock on the record date is entitled to one vote for each share of common stock held. On April 1, 2013, there were 157,512,832 shares of common stock issued and outstanding.

When used in this proxy statement, “ION Geophysical,” “ION,” “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.

## ABOUT THE MEETING

### **What is a proxy?**

A proxy is your legal designation of another person to vote the stock you own on your behalf. That other person is referred to as a “proxy.” Our Board of Directors has designated R. Brian Hanson and James M. Lapeyre, Jr. as proxies for the 2013 Annual Meeting of Stockholders. By completing and returning the enclosed proxy card, you are giving Mr. Hanson and Mr. Lapeyre the authority to vote your shares in the manner you indicate on your proxy card.

### **Who is soliciting my proxy?**

Our Board of Directors is soliciting proxies on its behalf to be voted at the 2013 Annual Meeting. All costs of soliciting the proxies will be paid by ION. Copies of solicitation materials will be furnished to banks, brokers, nominees and other fiduciaries and custodians to forward to beneficial owners of ION’s common stock held by such persons. ION will reimburse such persons for their reasonable out-of-pocket expenses in forwarding solicitation materials. In addition to solicitations by mail, some of ION’s directors, officers and other employees, without extra compensation, might supplement this solicitation by telephone, personal interview or other communication. ION has also retained Georgeson Inc. to assist with the solicitation of proxies from banks, brokers, nominees and other holders, for a fee not to exceed \$10,500 plus reimbursement for out-of-pocket expenses. We may also ask our proxy solicitor to solicit proxies on our behalf by telephone for a fixed fee of \$6 per phone call and \$3.50 per telephone vote, plus reimbursement for expenses.

### **What is a proxy statement?**

A proxy statement is a document that the regulations of the Securities and Exchange Commission (“SEC”) require us to give you when we ask you to sign a proxy card designating individuals as proxies to vote on your behalf.

### **What is the difference between a “stockholder of record” and a stockholder who holds stock in “street name”?**

If your shares are registered directly in your name, you are a stockholder of record. If your shares are registered in the name of your broker, bank or similar organization, then you are the beneficial owner of shares held in street name.

### **What different methods can I use to vote?**

Most stockholders have a choice of voting over the Internet, by telephone or by using a traditional proxy card. Please check your proxy card or the information forwarded by your bank, broker or other holder of record to see which options are available to you.

(a) *In Writing:* All stockholders can vote by written proxy card.

(b) *By Telephone and Internet:* Owners of shares held in street name may generally vote by telephone or the Internet, in which case their bank or broker will enclose the voting instruction form with the proxy statement. The telephone and Internet voting procedures, including the use of control numbers, are designed to authenticate stockholders’ identities, to allow stockholders to vote their shares and to confirm that their instructions have been properly recorded.

(c) *In Person:* All stockholders may vote in person at the meeting. If your shares are held in street name and you wish to vote in person, you will need to ask your broker or bank for a legal proxy. You will need to bring the legal proxy with you to the meeting.



**Where will the Annual Meeting be held?**

ION's 2013 Annual Meeting of Stockholders will be held on the 4<sup>th</sup> Floor of 2105 CityWest Boulevard in Houston, Texas.

*Directions:* The site for the meeting is located on CityWest Boulevard off of Beltway 8, near the intersection of Beltway 8 and Briar Forest Drive. Traveling south on the Beltway 8 feeder road after Briar Forest Drive, turn right on Del Monte Drive. Enter Garage Entrance 3 on your immediate left. Advise the guard that you are attending the ION Annual Meeting. You may be required to show your driver's license or other photo identification. The guard will then direct you where to park in the visitors section of the parking garage. The guard can also direct you to 2105 CityWest Boulevard, which is directly south of the garage. Once in the building, check in with the security desk and then take the elevators to the 4<sup>th</sup> floor.

**What is the effect of not voting?**

It depends on how ownership of your shares is registered. If you are a stockholder of record, your unvoted shares will not be represented at the meeting and will not count toward the quorum requirement. Assuming a quorum is obtained, your unvoted shares will not be treated as a vote for or against a proposal. Depending on the circumstances, if you own your shares in street name, your broker or bank may represent your shares at the meeting for purposes of obtaining a quorum. As described in the answer to the question immediately following, in the absence of your voting instruction, your broker may or may not vote your shares.

**If I don't vote, will my broker vote for me?**

If you own your shares in street name and you do not vote, your broker may vote your shares in its discretion on proposals determined to be "routine matters" under the rules of the New York Stock Exchange ("NYSE"). With respect to "non-routine matters," however, your broker may not vote your shares for you. Where a broker cannot vote your shares on non-routine matters because he has not received any instructions from you regarding how to vote, the number of unvoted shares on those matters is reported as "broker non-votes." These "broker non-vote" shares are counted toward the quorum requirement, but, generally speaking, they do not affect the determination of whether a matter is approved. See "*— How are abstentions and broker non-votes counted?*" below. The election of directors, the vote to approve the 2013 Long-Term Incentive Plan (the "2013 LTIP") and the advisory vote on executive compensation are not considered to be routine matters under current NYSE rules, so your broker will not have discretionary authority to vote your shares held in street name on those matters. The proposal to ratify the appointment of Ernst & Young LLP as our independent registered public accounting firm is considered to be a routine matter on which brokers will be permitted to vote your shares without instructions from you.

**What is the record date and what does it mean?**

The record date for the 2013 Annual Meeting of Stockholders is April 1, 2013. The record date is established by the Board of Directors as required by Delaware law (the state in which we are incorporated). Holders of common stock at the close of business on the record date are entitled to receive notice of the meeting and vote at the meeting and any adjournments or postponements of the meeting.

**How can I revoke a proxy?**

A stockholder can revoke a proxy prior to the vote at the Annual Meeting by (a) giving written notice to the Corporate Secretary of ION, (b) delivering a later-dated proxy or (c) voting in person at the meeting. If you hold shares through a bank or broker, you must contact that bank or broker in order to revoke any prior voting instructions.

**What constitutes a quorum?**

The presence, in person or by proxy, of the holders of a majority of the outstanding shares of common stock constitutes a quorum. We need a quorum of stockholders to hold a validly convened Annual Meeting. If you have signed and returned your proxy card, your shares will be counted toward the quorum. If a quorum is not present, the chairman may adjourn the meeting, without notice other than by announcement at the meeting, until the required quorum is present. As of the record date, 157,512,832 shares of common stock were outstanding. Thus, the presence of the holders of common stock representing at least 78,756,417 shares will be required to establish a quorum.

**What are my voting choices when voting for director nominees, and what vote is needed to elect directors?**

In voting on the election of three director nominees to serve until the 2016 Annual Meeting of Stockholders, stockholders may vote in one of the following ways:

- (a) in favor of all nominees,
- (b) withhold votes as to all nominees or
- (c) withhold votes as to a specific nominee.

Directors will be elected by a plurality of the votes of the shares of common stock present or represented by proxy at the meeting. This means that director nominees receiving the highest number of “for” votes will be elected as directors. Votes “for” and “withheld” are counted in determining whether a plurality has been cast in favor of a director. Under ION’s Corporate Governance Guidelines, any director nominee who receives a greater number of votes “withheld” from his election than votes “for” such election shall promptly tender to the Board of Directors his resignation following certification of the results of the stockholder vote. For a more complete explanation of this requirement and process, please see *“Item 1 — Election of Directors — Board of Directors and Corporate Governance — Majority Voting Procedure for Directors”* below.

You may not abstain from voting for purposes of the election of directors. Stockholders are not permitted to cumulate their votes in the election of directors.

The Board recommends a vote **“FOR”** all of the nominees.

**What are my voting choices when casting a vote to approve the 2013 LTIP?**

In casting a vote to approve the 2013 LTIP, stockholders may vote in one of the following ways:

- (a) in favor of the plan,
- (b) against the plan or
- (c) abstain from voting.

The vote to approve the 2013 LTIP requires a majority of the votes cast on the proposal, provided that the total votes cast on the proposal represents over 50% of the outstanding shares of our common stock.

The Board recommends a vote **“FOR”** this proposal.

**What are my voting choices when casting an advisory vote to approve the compensation of our named executive officers?**

In casting an advisory vote to approve the compensation of our named executive officers, stockholders may vote in one of the following ways:

- (a) in favor of the advisory vote to approve our executive compensation,

- (b) against the advisory vote to approve our executive compensation or
- (c) abstain from voting.

The advisory vote to approve the compensation of our named executive officers will be approved if the number of votes cast in favor of the proposal exceeds the number of votes cast against it.

The Board recommends a vote “**FOR**” this proposal.

**What are my voting choices when voting on the ratification of the appointment of Ernst & Young LLP as our independent registered public accounting firm — or independent auditors — and what vote is needed to ratify their appointment?**

In voting to ratify the appointment of Ernst & Young LLP as independent auditors for 2013, stockholders may vote in one of the following ways:

- (a) in favor of ratification,
- (b) against ratification or
- (c) abstain from voting on ratification.

The proposal to ratify the appointment of Ernst & Young LLP will require the affirmative vote of a majority of the votes cast on the proposal by holders of common stock in person or represented by proxy at the meeting.

The Board recommends a vote “**FOR**” this proposal.

**Will any other business be transacted at the meeting? If so, how will my proxy be voted?**

We do not know of any business to be transacted at the Annual Meeting other than those matters described in this proxy statement. We believe that the periods specified in ION’s Bylaws for submitting proposals to be considered at the meeting have passed and no proposals were submitted. However, should any other matters properly come before the meeting, and any adjournments or postponements of the meeting, shares with respect to which voting authority has been granted to the proxies will be voted by the proxies in accordance with their judgment.

**What if a stockholder does not specify a choice for a matter when returning a proxy?**

Stockholders should specify their choice for each matter on the enclosed form of proxy. If no instructions are given, proxies that are signed and returned will be voted “**FOR**” the election of all director nominees, “**FOR**” the approval of the 2013 LTIP, “**FOR**” the non-binding advisory vote to approve our company’s executive compensation and “**FOR**” the proposal to ratify the appointment of Ernst & Young LLP as independent auditors for 2013.

**How are abstentions and broker non-votes counted?**

Abstentions are counted for purposes of determining whether a quorum is present at the Annual Meeting. A properly executed proxy card marked “withhold” with respect to the election of one or more directors will not be voted with respect to the director or directors indicated, although it will be counted for purposes of determining whether there is a quorum.

With respect to (i) the proposal regarding the advisory vote on executive compensation and (ii) the proposal to ratify the appointment of the independent auditors, an abstention from voting on either such proposal will be counted as present in determining whether a quorum is present but will not be counted in determining the total votes cast on such proposal. Thus, abstentions will have no effect on the outcome of the vote on these proposals.

With respect to the proposal to approve the 2013 LTIP, an abstention from voting will be counted as present in determining whether a quorum is present, and will count as a vote cast on the proposal according to NYSE guidance. Therefore, if you abstain from voting on the proposal to approve the 2013 LTIP, the abstention will have the same effect as a vote against the proposal.

Broker non-votes will have no effect on the outcome of the vote on any of the proposals.

**What is the deadline for submitting proposals to be considered for inclusion in the 2014 proxy statement and for submitting a nomination for director of ION for consideration at the Annual Meeting of Stockholders in 2014?**

Stockholder proposals requested to be included in ION's 2014 proxy statement must be received by ION not later than December 20, 2013. A proper director nomination may be considered at ION's 2014 Annual Meeting of Stockholders only if the proposal for nomination is received by ION not later than December 20, 2013. Proposals and 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.

**Will I have electronic access to the proxy materials and Annual Report?**

The notice of Annual Meeting, proxy statement and 2012 Annual Report to Stockholders are also posted on ION's Internet website in the Investor Relations section at [www.iongeo.com](http://www.iongeo.com).

**How can I obtain a copy of ION's Annual Report on Form 10-K?**

A copy of our 2012 Annual Report on Form 10-K (without schedules or exhibits) forms a part of our 2012 Annual Report to Stockholders, which is enclosed with our proxy statement. You may obtain an additional copy of our 2012 Form 10-K at no charge by sending a written request to David L. Roland, Senior Vice President, General Counsel and Corporate Secretary, ION Geophysical Corporation, 2105 CityWest Boulevard, Suite 400, Houston, Texas 77042-2839. Our Form 10-K is also available (i) through the Investor Relations section of our website at [www.iongeo.com](http://www.iongeo.com) and (ii) with exhibits on the SEC's website at <http://www.sec.gov>.

Please note that the contents of these and any other websites referenced in this proxy statement are not incorporated into this filing. Further, our references to the URLs for these and other websites listed in this proxy statement are intended to be inactive textual references only.



## ITEM 1 — ELECTION OF 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. Directors in Class II, which is the class of directors to be elected at this meeting, will serve on the Board until our Annual Meeting in 2016.

The current Class II directors are David H. Barr, Franklin Myers and S. James Nelson, Jr., and their terms will expire when their successors are elected and qualified at the 2013 Annual Meeting. At its meeting on February 11, 2013, the Board approved the recommendation of the Governance Committee that Messrs. Barr, Myers and Nelson be nominated to stand for reelection at the Annual Meeting to hold office until our 2016 Annual Meeting and until their successors are elected and qualified.

We have no reason to believe that any of the nominees will be unable or unwilling to serve if elected. However, if any nominee should become unable or unwilling to serve for any reason, proxies may be voted for another person nominated as a substitute by the Board of Directors, or the Board of Directors may reduce the number of Directors.

**The Board of Directors recommends a vote “FOR” the election of David H. Barr, Franklin Myers and S. James Nelson, Jr.**

The biographies of each of the nominees and continuing directors below contains information regarding the person’s service as a director, business experience, education, director positions and the experiences, qualifications, attributes or skills that caused the Governance Committee and the Board to determine that the person should serve as a director for the Company:

### **Class II Director Nominees for Re-Election for Term Expiring in 2016**

DAVID H. BARR

Director since 2010

From May 2011 until December 2012, Mr. Barr, age 63, 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., on the Board of Directors and 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 our 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 our 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 our business, including development of business strategy.

FRANKLIN MYERS

Director since 2001

Mr. Myers, age 60, has served as an advisory director 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 our 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 our Board and the Chairman of our 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 proven to be a significant resource for our 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.

S. JAMES NELSON, JR.

Director since 2004

Mr. Nelson, age 71, joined our Board of Directors 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 American Stock Exchange-listed 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 our 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 our 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 ION, both on our Board of Directors and as the Chairman of our 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.

### **Class III Incumbent Directors — Term Expiring in 2014**

MICHAEL C. JENNINGS

Director since 2010

Mr. Jennings, age 47, 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 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 our 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.

JOHN N. SEITZ

Director since 2003

Mr. Seitz, age 61, is a founder and Vice Chairman of the Board of Endeavour International Corporation, an exploration and development company with activities in the North Sea and selected North American basins. From 2003 until 2006, Mr. Seitz served as co-CEO of Endeavour. 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 with interests in oil and natural gas properties in Peru and Colombia. 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.

### **Class I Incumbent Directors — Term Expiring in 2015**

R. BRIAN HANSON

Director since 2012

Mr. Hanson, age 48, has been our President and Chief Executive Officer since January 1, 2012. He joined ION in May 2006 as our Executive Vice President and Chief Financial Officer and was appointed our President and Chief Operating Officer in August 2011. Prior to joining ION, 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 our company provides him with personal knowledge regarding our 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 our company's operations and prospects and financial condition.

HAO HUIMIN

Director since 2011

Mr. Hao, age 49, 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 our 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 20 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 our Board to receive current input and advice reflecting the perspectives of our seismic contractor customers. In addition, our 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 our commercial involvement with China and Chinese companies. Mr. Hao's insights with regard to issues relating to China provide our Board with an invaluable resource.

Mr. Hao was appointed to our Board of Directors under the terms of an agreement with BGP in connection with BGP's purchase of 23,789,536 shares of our common stock in March 2010. Under the agreement, BGP is entitled to designate one individual to serve as a member of our Board unless BGP's ownership of our common stock falls below 10%. In January 2011, Mr. Hao replaced Guo Yueliang, BGP's initial appointee to our Board.

JAMES M. LAPEYRE, JR.

Director since 1998

Mr. Lapeyre, age 60, served as Chairman of our 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 our 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 our 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 our company enables our Board to have direct access to the perspective of our stockholders and ensures that the Board will take into consideration the interests of our stockholders in all Board decisions. In addition, Mr. Lapeyre has extensive knowledge regarding the marine products and technology that we acquired from Laitram in 1998.

### **Board of Directors and Corporate Governance**

*Governance Initiatives.* ION is committed to excellence in corporate governance and maintains clear practices and policies that promote good corporate governance. We review our governance practices and update them, as appropriate, based upon Delaware law, rules and listing standards of the NYSE, SEC regulations and practices recommended by our outside advisors.

Examples of our corporate governance initiatives include the following:

- Seven of our eight Board members are independent of ION and its management. R. Brian Hanson, our President and Chief Executive Officer, is not independent because he is an employee of ION.
- All members of the principal standing committees of our Board — the Audit Committee, the Governance Committee and the Compensation Committee — are independent.
- The independent members of our Board and each of the principal committees of our Board meet regularly without the presence of management. The members of the Audit Committee meet regularly with representatives of our independent registered public accounting firm without the presence of management. The members of the Audit Committee also meet regularly with our manager of internal audit without the presence of other members of management.
- Our Audit Committee has at least one member who qualifies as a "financial expert" in accordance with Section 407 of the Sarbanes-Oxley Act of 2002.
- The Board has adopted written Corporate Governance Guidelines to assist its members in fulfilling their responsibilities.

- Under our Corporate Governance Guidelines, Board members are required to offer their resignation from the Board if they retire or materially change the position they held when they began serving as a director on the Board.
- We comply with and operate in a manner consistent with regulations prohibiting loans to our directors and executive officers.
- Members of our Disclosure Committee, consisting of management employees and senior finance and accounting employees, review all quarterly and annual reports before filing with the SEC.
- We have a dedicated hotline and website available to all employees to report ethics and compliance concerns, anonymously if preferred, including concerns related to accounting, accounting controls, financial reporting and auditing matters. The hotline and website are administered and monitored by an independent hotline monitoring company. The Board has adopted a policy and procedures for the receipt, retention and treatment of complaints and employee concerns received through the hotline or website. The policy is available on our website at <http://ir.iongeo.com/phoenix.zhtml?c=101545&p=irol-govhighlights>.
- On an annual basis, each director and each executive officer is obligated to complete a questionnaire that requires disclosure of any transactions with ION in which the director or executive officer, or any member of his immediate family, has a direct or indirect material interest.
- We have included as Exhibits 31.1 and 31.2 to our Annual Report on Form 10-K for the fiscal year ended December 31, 2012, filed with the SEC, certificates of our Chief Executive Officer and Chief Financial Officer, respectively, certifying as to the quality of our public disclosure. In addition, in 2012, we submitted to the NYSE a certificate of our Chief Executive Officer certifying that he is not aware of any violation by ION of the NYSE corporate governance listing standards.
- Our internal audit controls function maintains critical oversight over the key areas of our business and financial processes and controls, and provides reports directly to the Audit Committee.
- We have a compensation recoupment (clawback) policy that applies to our current and former executive officers. The policy is available on our website at <http://ir.iongeo.com/phoenix.zhtml?c=101545&p=irol-govhighlights>.
- We have stock ownership guidelines for our non-employee directors and senior management.
- Our employment contracts with our Chief Executive Officer, Chief Financial Officer and other employees do not contain a “single-trigger” change of control severance provision or entitle the employee to tax gross-up benefits.

*Majority Voting Procedure for Directors.* Our Corporate Governance Guidelines require a mandatory majority voting, director resignation procedure. Any director nominee in an uncontested election who receives a greater number of votes “withheld” from his election than votes “for” such election is required to promptly tender to the Board of Directors his resignation following certification of the stockholder vote. Upon receipt of the resignation, the Governance Committee will consider the resignation offer and recommend to the Board whether to accept it. The Board will act on the Governance Committee’s recommendation within 120 days following certification of the stockholder vote. The Governance Committee and the Board may consider any factors they deem relevant in deciding whether to accept a Director’s resignation. Thereafter, the Board will promptly disclose its decision whether to accept the Director’s resignation offer (and the reasons for rejecting the resignation offer, if applicable) in a Current Report on Form 8-K furnished to the SEC.

*Code of Ethics.* We have adopted a Code of Ethics that applies to all members of our Board of Directors and all of our employees, including our principal executive officer, principal financial officer, principal accounting officer and all other senior members of our finance and accounting departments. We require all employees to adhere to our Code of Ethics in addressing legal and ethical issues encountered in conducting their work. The Code of Ethics requires that our 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 ION's best interest. Every year our management employees and senior finance and accounting employees affirm their compliance with our Code of Ethics and other principal compliance policies. New employees sign a written certification of compliance with these policies upon commencing employment.

We have made our Code of Ethics, corporate governance guidelines, charters for the principal standing committees of our Board and other information that may be of interest to investors available on the Investor Relations section of our website at <http://ir.iongeo.com/phoenix.zhtml?c=101545&p=irol-govhighlights>. Copies of this information may also be obtained by writing to us 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, our Code of Ethics will also be available on our website and reported as may be required under SEC rules; however, any technical, administrative or other non-substantive amendments to our Code of Ethics may not be posted.

Please note that the preceding Internet address and all other Internet addresses referenced in this proxy statement 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 our website in general is intended or deemed to be incorporated by reference herein.

*Lead Independent Director.* James M. Lapeyre, Jr. serves as our Chairman of the Board of Directors. Under NYSE corporate governance listing standards, Mr. Lapeyre has also been designated as our Lead Independent Director and presiding non-management director to lead non-management directors meetings of the Board. Our non-management directors meet at regularly scheduled executive sessions without management, over which Mr. Lapeyre presides. The powers and authority of the Lead Independent Director also includes the following:

- Advise and consult the Chief Executive Officer, senior management and the Chairperson of each Committee of the Board, as to the appropriate information, agendas and schedules of Board and Committee meetings;
- Advise and consult with the Chief Executive Officer and senior management as to the quality, quantity and timeliness of the information submitted by the Company's management to the independent directors;
- Recommend to the Chief Executive Officer and the Board the retention of advisers and consultants to report directly to the Board;
- Call meetings of the Board or executive sessions of the independent directors;
- Develop the agendas for and preside over executive sessions of the Board's independent directors;
- Serve as principal liaison between the independent directors, and the Chief Executive Officer and senior management, on sensitive issues, including the review and evaluation of the Chief Executive Officer; and
- Coordinate with the independent directors in respect of each of the foregoing.

Certain of the duties and powers described above are to be conducted in conjunction with our Chairman of the Board if the Lead Independent Director is not also the Chairman of the Board.

*Communications to Board and Lead Independent Director.* Stockholders and other interested parties may communicate with the Board and our Lead Independent Director or non-management independent directors as a group by writing to “Chairman of the Board” or “Lead Independent Director,” c/o Corporate Secretary, ION Geophysical Corporation, 2105 CityWest Boulevard, Suite 400, Houston, Texas 77042-2839. Inquiries sent by mail will be reviewed by our Corporate Secretary and, if they pertain to the functions of the Board or Board committees or if the Corporate Secretary otherwise determines that they should be brought to the intended recipient’s attention, they will be forwarded to the intended recipient. Concerns relating to accounting, internal controls, auditing or compliance matters will be brought to the attention of our Audit Committee and handled in accordance with procedures established by the Audit Committee.

Our Corporate Secretary’s review of these communications will be performed with a view that the integrity of this process be preserved. For example, items that are unrelated to the duties and responsibilities of the Board, such as personal employee complaints, product inquiries, new product suggestions, resumes and other forms of job inquiries, surveys, service or product complaints, requests for donations, business solicitations or advertisements, will not be forwarded to the directors. In addition, material that is considered to be hostile, threatening, illegal or similarly unsuitable will not be forwarded. Except for these types of items, the Corporate Secretary will promptly forward written communications to the intended recipient. Within the above guidelines, the independent directors have granted the Corporate Secretary discretion to decide what correspondence should be shared with ION management and independent directors.

*2012 Meetings of the Board and Stockholders.* During 2012, the Board of Directors held ten meetings and the four standing committees of the Board of Directors held a total of 16 meetings. Overall, the rate of attendance by our directors at such meetings exceeded 93%. No director attended less than 69% of these meetings. We do not require our Board members to attend our Annual Meeting of Stockholders; however, seven of our directors were present at our Annual Meeting held in May 2012.

*Independence.* In determining independence, each year the Board determines whether directors have any “material relationship” with ION. When assessing the “materiality” of a director’s relationship with ION, 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 ION 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 ION or having been employed by ION 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 ION; (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 ION 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 ION 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 ION’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 ION’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 ION’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, ION 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, ION 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.

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

Our Chairman and Lead Independent Director, Mr. Lapeyre, is an executive officer and significant shareholder of Laitram, L.L.C., a company with which ION has ongoing contractual relationships, and Mr. Lapeyre and Laitram together owned approximately 6.4% of our outstanding common stock as of March 1, 2013. Our Board has determined that these contractual relationships have not interfered with Mr. Lapeyre's demonstrated independence from our management, and that the services performed by Laitram for ION are being provided at arm's length in the ordinary course of business and substantially on the same terms to ION as those prevailing at the time from unrelated parties for comparable transactions. In addition, the services provided by Laitram to ION resulted in payments by ION to Laitram in an amount less than 2% of Laitram's 2012 consolidated gross revenues. As a result of these factors, our Board has determined that Mr. Lapeyre, along with each of our 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, please see " — *Certain Transactions and Relationships*" below.

Our director, Mr. Hao, is employed as Chief Geophysicist of BGP. For an explanation of the relationships between BGP and ION, please see " — *Certain Transactions and Relationships*" below.

During 2012, our Board approved our making a charitable matching donation to the University of Kansas Foundation in 2013 to fund either a scholarship in engineering for the benefit of a graduate student of a KIPP (Knowledge Is Power Program) charter school, a series of open-enrollment college-preparatory public charter schools in underserved communities, or another form of scholarship or financial aid on terms to be approved by our President and Chief Executive Officer. The donation would be in an amount equal to the amount of a donation made to the University of Kansas Foundation by Robert P. Peebler, in his individual capacity, not to exceed \$250,000. Mr. Peebler served as our Executive Chairman during 2012, and from 2003 until December 2011 served as our Chief Executive Officer. We expect to pay the full matching donation before the end of 2013. See " — *Certain Transactions and Relationships*" below.

*Risk Oversight.* Our Board oversees an enterprise-wide approach to risk management, designed to support the achievement of organizational objectives, including strategic objectives, to improve long-term organizational performance and enhance stockholder value. A fundamental part of risk management is not only understanding the risks a company faces and what steps management is taking to manage those risks, but also understanding what level of risk is appropriate for the company. The involvement of the full Board in setting ION's business strategy is a key part of its assessment of the company's appetite for risk and also a determination of what constitutes an appropriate level of risk for the company. The Board also regularly reviews information regarding the company's credit, liquidity and operations, as well as the risks associated with each. While the Board has the ultimate oversight responsibility for the risk management process, various committees of the Board also have responsibility for risk management. In particular, the Audit Committee focuses on financial risk, including internal controls, and receives an annual risk assessment report from ION's internal auditors.



In addition, in setting compensation, the Compensation Committee strives to create incentives that encourage a level of risk-taking behavior consistent with ION's business strategies. While each committee is responsible for evaluating certain risks and overseeing the management of such risks, the entire Board is regularly informed through committee reports about such risks.

*Board Leadership.* Our current Board leadership structure consists of a Chairman of the Board (who is not our current CEO), a Lead Independent Director (who is also our Chairman of the Board) and strong independent committee chairs. The Board believes this structure provides independent Board leadership and engagement and strong independent oversight of management while providing the benefit of having our Chairman and Lead Independent Director lead regular Board meetings as we discuss key business and strategic issues. Mr. Lapeyre, a non-employee independent director, serves as our Chairman of the Board and Lead Independent Director. Mr. Hanson has served as our CEO since January 1, 2012. We separate the roles of CEO and Chairman of the Board in recognition of the differences between the two roles. The CEO is responsible for setting the strategic direction for the company and the day-to-day leadership and performance of the company, while the Chairman provides guidance to the CEO and sets the agenda for Board meetings and presides over the meetings of the full Board. Separating these positions allows our CEO to focus on our day-to-day business, while allowing the Chairman to lead the Board in its fundamental role of providing advice to, and independent oversight of, management. The Board recognizes the time, effort and energy that the CEO is required to devote to his position, as well as the commitment required to serve as our Chairman. The Board believes that having separate positions is the appropriate leadership structure for our company at this time and demonstrates our commitment to good corporate governance.

*Political Contributions and Lobbying.* Our Code of Ethics prohibits company contributions to political candidates or parties. In addition, we do not advertise in or purchase political publications, allow company assets to be used by political parties or candidates, use corporate funds to purchase seats at political fund raising events, or allow company trademarks to be used in political or campaign literature. ION is a member of certain trade associations that may use a portion of their membership dues for lobbying and/or political expenditures.

### **Committees of the Board**

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 our 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 us 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. During 2012, the Audit Committee met five times, the Compensation Committee met three times, the Governance Committee met five times, and the Finance Committee met three times.

The current members of the four standing committees of the Board of Directors are identified below.

<u>Director</u>	<u>Compensation Committee</u>	<u>Audit Committee</u>	<u>Governance Committee</u>	<u>Finance Committee</u>
James M. Lapeyre, Jr. . . . .	*	*	Chair	
David H. Barr . . . . .	*		*	
R. Brian Hanson . . . . .				
Hao Huimin . . . . .				*
Michael C. Jennings . . . . .		*		*
Franklin Myers . . . . .	Chair		*	Co-Chair
S. James Nelson, Jr. . . . .		Chair		Co-Chair
John N. Seitz . . . . .	*		*	

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\* Member

***Audit Committee***

The 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 our independent auditors, reviewing financial information that is provided to our stockholders and others, reviewing with management our system of internal controls and financial reporting process, and monitoring our compliance program and system.

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.

***Compensation Committee***

*General.* The Compensation Committee has responsibility for the compensation of our executive officers, including our Chief Executive Officer, and the administration of our 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 our Chief Executive Officer are determined in discussion with, and frequently based in part upon the recommendation of, our Chief Executive Officer. The Compensation Committee makes all determinations with respect to the compensation of our 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 our 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 our performance that will be applicable to such awards and the similar awards for our other senior executives. It also reviews our 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 our 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 our executive officers pursuant to our equity compensation plans, and approves the total annual grants to other key employees, to be granted in accordance with a delegation of authority to our 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 ION, including those that are not otherwise subject to the approval of our stockholders. It reviews any contracts or other transactions with current or former elected officers of the corporation. 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 ION 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 2012, an officer or employee of ION. 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 ION since 1999. During 2012, we paid Laitram and its affiliates a total of approximately \$4.1 million, which consisted of approximately \$3.2 million for manufacturing services, \$0.6 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 our Louisiana marine operations. See “ — *Certain Transactions and Relationships*” below. During 2012:

- No executive officer of ION 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 ION; and
- No executive officer of ION served as a director of another entity, one of whose executive officers served on the Compensation Committee of ION.

#### ***Governance Committee***

The Governance Committee functions as the Board’s nominating and corporate governance committee and advises the Board of Directors with regard to matters relating to governance practices and policies, management succession, and composition and operation of the Board and its committees, including reviewing potential candidates for membership on the Board and recommending to the Board nominees for election as directors of ION. In addition, the Governance Committee reviews annually with the full Board and our Chief Executive Officer the succession plans for senior executive officers and makes recommendations to the Board regarding the selection of individuals to occupy these positions. The Board of Directors has determined that each member of the Governance Committee

satisfies the definition of “independent” as established under the NYSE corporate governance listing standards.

In identifying and selecting new director candidates, the Governance Committee considers the Board’s current and anticipated strengths and needs and a candidate’s experience, knowledge, skills, expertise, integrity, diversity, ability to make independent analytical inquiries, understanding of the company’s business environment, willingness to devote adequate time and effort to Board responsibilities, and other relevant factors. The Governance Committee has not established specific minimum age, education, years of business experience or specific types of skills for potential director candidates, but, in general, expects that qualified candidates will have ample experience and a proven record of business success and leadership. The committee also seeks an appropriate balance of experience and expertise in accounting and finance, technology, management, international business, compensation, corporate governance, strategy, industry knowledge and general business matters. In addition, the committee seeks a diversity of experience, professions, skills, geographic representation and backgrounds. The committee may rely on various sources to identify potential director nominees, including input from directors, management and others the committee feels are reliable, and professional search firms.

Our Bylaws permit stockholders to nominate individuals for director for consideration at an annual stockholders’ meeting. A proper director nomination may be considered at our 2014 Annual Meeting only if the proposal for nomination is received by ION not later than December 20, 2013. 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 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 our Corporate Secretary at our 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.

#### ***Finance Committee***

The Finance Committee has responsibility for overseeing all areas of corporate finance for ION. The Finance Committee is responsible for reviewing with ION management, and has the power and authority to approve on behalf of the Board, ION’s strategies, plans, policies and actions related to corporate finance, including, but not limited to, (a) capital structure plans and strategies and specific equity or debt financings, (b) capital expenditure plans and strategies and specific capital projects, (c) strategic and financial investment plans and strategies and specific investments, (d) cash management plans and strategies and activities relating to cash flow, cash accounts, working capital, cash investments and treasury activities, including the establishment and maintenance of bank, investment and brokerage accounts, (e) financial aspects of insurance and risk management, (f) tax planning and compliance, (g) dividend policy, (h) plans and strategies for managing foreign currency exchange exposure and other exposures to economic risks, including plans and strategies with respect to the use of derivatives, and (i) reviewing and making recommendations to the Board with respect to any proposal by ION to divest any asset, investment, real or personal property, or business interest if such divestiture is required to be approved by the Board. The Finance Committee does not have oversight

responsibility with respect to ION's financial reporting, which is the responsibility of the Audit Committee. The Board of Directors has determined that a majority of the members of the Finance Committee (including its co-Chairmen) satisfies the definition of "independent" as established under the NYSE corporate governance listing standards.

### ***Stock Ownership Requirements***

The Board has adopted stock ownership requirements for ION's directors. The Board adopted these requirements in order to align the economic interests of the directors with those of our stockholders and further focus our emphasis on enhancing stockholder value. Under these requirements, each non-employee director is expected to own at least 36,000 shares of ION common stock, which, at the \$6.51 closing price per share of our common stock on the NYSE on December 31, 2012, equates to more than five times the \$46,000 annual retainer fee we pay to our non-employee directors. New and current directors will have three years to acquire and increase the director's ownership of ION common stock to satisfy the requirements. The stock ownership requirements are subject to modification by the Board in its discretion. The Board has also adopted stock ownership requirements for senior management of ION. See "*Executive Compensation — Compensation Discussion and Analysis — Elements of Compensation — Stock Ownership Requirements; Hedging Policy*" below.

The Governance Committee and the Board regularly review and evaluate ION's directors' compensation program on the basis of current and emerging compensation practices for directors, emerging legal, regulatory and corporate compliance developments and comparisons with director compensation programs of other similarly-situated public companies.

### **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 ION 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 ION 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 approve or ratify 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 ION 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 6.4% of our outstanding common stock as of March 1, 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 2012, we paid Laitram and its affiliates a total of approximately \$4.1 million, which consisted of approximately \$3.2 million for manufacturing services, \$0.6 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. 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.

Mr. Hao is Chief Geophysicist of BGP. BGP has been a customer of our products and services for many years. For our fiscal years ended December 31, 2012 and 2011, BGP accounted for approximately 2.6% and 7.6% of our consolidated net sales, respectively. During 2012, we recorded revenues from sales to BGP of approximately \$13.7 million. Trade receivables due from BGP at December 31, 2012 were \$1.6 million. For 2012, we paid BGP approximately \$2.0 million for seismic acquisition services provided on one of our new venture projects. At December 31, 2012, we owed BGP \$9.3 million for unpaid services received for that project.

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

- We issued and sold 23,789,536 shares of our common stock to BGP for an effective purchase price of \$2.80 per share pursuant to (i) a Stock Purchase Agreement we 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 March 1, 2013, BGP held beneficial ownership of approximately 15.1% of our outstanding shares of common stock. The shares of our common stock acquired by BGP are subject to the terms and conditions of an Investor Rights Agreement that we entered into with BGP in connection with its purchase of our shares. Under the Investor Rights Agreement, for so long as BGP owns at least 10% of our outstanding shares of common stock, BGP will have the right to nominate one director to serve on our Board. The appointment of Mr. Hao to our Board was made pursuant to this agreement. The Investor Rights Agreement also provides that whenever we may issue shares of our common stock or other securities convertible into, exercisable or exchangeable for our 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 our 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 our directors, employees and consultants, under employee stock purchase plans and under our currently outstanding convertible and exercisable securities.
- We formed a joint venture with BGP, owned 49% by us and 51% by BGP, to design, develop, manufacture and sell land-based seismic data acquisition equipment for the petroleum industry. The name of the joint venture company is INOVA Geophysical Equipment Limited. Under the terms of the joint venture transaction, INOVA Geophysical was initially formed as a wholly-owned direct subsidiary of ION, and BGP acquired its interest in the joint venture by paying us 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 our obligations under our commercial bank revolving and term loans.

During 2012, our Board approved our making a charitable matching donation to the University of Kansas Foundation to fund either a scholarship in engineering for the benefit of a graduate student of a KIPP (Knowledge Is Power Program) charter school, a series of open-enrollment college-preparatory public charter schools in underserved communities, or another form of scholarship or financial aid on terms to be approved by our President and Chief Executive Officer, in an amount equal to the amount of a donation made to the University of Kansas Foundation by Robert P. Peebler, in his individual capacity, not to exceed \$250,000. Mr. Peebler served during 2012 as our Executive Chairman until December 31, 2012, and as our Chief Executive Officer from 2003 until December 31, 2011. We expect to pay the matching donation before the end of 2013.

We entered into a Consulting Services Agreement, dated effective January 1, 2013, with The Peebler Group LLC, a company owned and controlled by Mr. Peebler. The parties entered into the Consulting Services Agreement in accordance with the terms of Mr. Peebler's employment agreement, which expired by its terms on December 31, 2012. Under the Consulting Services Agreement, Mr. Peebler will provide consulting services for a period of up to five years to assist the Board of Directors and our Chief Executive Officer on our strategic projects. Under the agreement, the consultant will be paid an annual fee of \$275,000 during the first year of the agreement, and an annual fee of \$150,000 for each succeeding year of the agreement. We and the consultant also agreed that, if the frequency and extent of the services under the consulting services agreement during any year after the first year materially exceeds the current expectations of the parties, the annual fee for such exceeding year may increase to an amount not to exceed \$275,000, subject to the mutual agreement of the parties.

### **Director Compensation**

ION employees who are also directors do not receive any fee or remuneration for services as members of our Board of Directors. We currently have 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, our outside directors receive an annual retainer fee of \$46,000. In addition, commencing in 2013, our Chairman of the Board receives an annual retainer fee of \$25,000, our Chairman of the Audit Committee receives an annual retainer fee of \$20,000, our Chairman of the Compensation Committee receives an annual retainer fee of \$15,000, our 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. Our 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 our common stock on the first quarterly grant date after joining the Board and, commencing in 2013, follow-on grants each year of a number of shares of our 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 ION's non-employee directors in 2012:

<u>Name(1)</u>	<u>Fees Earned or Paid in Cash (\$)</u>	<u>Stock Awards (\$)(2)</u>	<u>Non-Equity Incentive Plan Compensation (\$)</u>	<u>Change in Pension Value and Nonqualified Deferred Compensation Earnings (\$)</u>	<u>All Other Compensation (\$)</u>	<u>Total (\$)</u>
David H. Barr . . . . .	69,000	74,640	—	—	—	143,640
Hao Huimin . . . . .	59,000	74,640	—	—	—	133,640
Michael C. Jennings . . . . .	70,000	74,640	—	—	—	144,640
James M. Lapeyre, Jr. . . . .	80,000	74,640	—	—	—	154,640
Franklin Myers . . . . .	87,000	74,640	—	—	—	161,640
S. James Nelson, Jr. . . . .	86,500	74,640	—	—	—	161,140
Robert P. Peebler(3) . . . . .	—	—	—	—	250,000	250,000
John N. Seitz . . . . .	67,000	74,640	—	—	—	141,640

- (1) R. Brian Hanson, our President and Chief Executive Officer, is not included in this table because he was an employee of ION during 2012, and therefore received no compensation for his services as director. The compensation received by Mr. Hanson as an employee of ION during 2012 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 our 2004 Long-Term Incentive Plan (“2004 LTIP”). On December 1, 2012, each of our non-employee directors was granted an award of 12,000 shares of ION 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, 2012, our non-employee directors held the following unvested and unexercised ION equity awards:

<u>Name</u>	<u>Unvested Stock Awards(#)</u>	<u>Unexercised Option Awards(#)</u>
David H. Barr . . . . .	—	—
Hao Huimin . . . . .	—	—
Michael C. Jennings . . . . .	—	—
James M. Lapeyre, Jr. . . . .	—	50,000
Franklin Myers . . . . .	—	25,000
S. James Nelson, Jr. . . . .	—	70,000
Robert P. Peebler (former director) . . . . .	—	180,000
John N. Seitz . . . . .	—	80,000

- (3) Mr. Peebler resigned from the Board effective on December 31, 2012. During 2012, Mr. Peebler served as an employee of ION and therefore received no compensation for his services as director. During 2012, our Board approved our making a charitable matching donation to the University of Kansas Foundation to fund a scholarship in engineering for the benefit of a graduate student of a KIPP (Knowledge Is Power Program) charter school, or another form of scholarship or financial aid on terms to be approved by our President and Chief Executive Officer. The donation, which will be made in 2013, will be in an amount equal to the amount of a donation made to the University of Kansas Foundation by Mr. Peebler, in his individual capacity, not to exceed \$250,000. See “ — *Certain Transactions and Relationships*” above.

## OWNERSHIP OF EQUITY SECURITIES OF ION

Except as otherwise set forth below, the following table sets forth information as of March 1, 2013, with respect to the number of shares of common stock owned by (i) each person known by us to be a beneficial owner of more than 5% of our common stock, (ii) each of our directors, (iii) each of our executive officers named in the 2012 Summary Compensation Table included in this proxy statement and (iv) all of our directors and executive officers as a group. Except where information was otherwise known by us, we have relied solely upon filings of Schedules 13D and 13G to determine the number of shares of our common stock owned by each person known to us to be the beneficial owner of more than 5% of our common stock as of such date.

<u>Name of Owner</u>	<u>Common Stock(1)</u>	<u>Rights to Acquire(2)</u>	<u>Restricted Stock(3)</u>	<u>Percent of Common Stock(4)</u>
BGP Inc., China National Petroleum Corporation(5) . . . .	23,789,536	—	—	15.1%
Invesco Ltd.(6) . . . . .	15,103,774	—	—	9.6%
James M. Lapeyre, Jr.(7) . . . . .	9,998,538	70,000	—	6.4%
BlackRock, Inc.(8) . . . . .	9,744,766	—	—	6.2%
St. Denis J. Villere & Company, L.L.C.(9) . . . . .	9,175,000	—	—	5.8%
Wells Fargo & Company(10) . . . . .	9,165,184	—	—	5.8%
Wellington Management Company, LLP(11) . . . . .	8,976,135	—	—	5.7%
Laitram, L.L.C.(12) . . . . .	7,605,345	—	—	4.8%
David H. Barr . . . . .	44,000	—	—	*
R. Brian Hanson . . . . .	—	235,000	118,076	*
Hao Huimin . . . . .	30,100	—	—	*
Michael C. Jennings . . . . .	44,000	—	—	*
Franklin Myers . . . . .	72,000	25,000	—	*
S. James Nelson, Jr. . . . .	64,000	70,000	—	*
John N. Seitz . . . . .	73,895	80,000	—	*
Gregory J. Heinlein . . . . .	7,037	43,000	24,132	*
David L. Roland . . . . .	71,426	120,000	11,665	*
Christopher T. Usher . . . . .	—	—	50,000	*
Ken Williamson . . . . .	57,832	242,500	28,333	*
All directors and executive officers as a group (14 Persons) . . . . .	10,490,968	1,199,700	253,537	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 our officers and directors that are currently exercisable or will be exercisable on or before April 30, 2013.
- (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 30, 2013, are outstanding.

- (5) The address for BGP Inc., China National Petroleum Corporation is No. 189 Fanyang Middle Road, ZhuoZhou City, HeBei Province 072750 P.R. China.
- (6) The address for Invesco Ltd. is 1555 Peachtree Street NE, Atlanta, Georgia, 30309.
- (7) These shares of common stock include 950,580 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 12 below. Mr. Lapeyre has sole voting power over only 1,432,113 of these shares of common stock.
- (8) The address for BlackRock, Inc. is 40 East 52<sup>nd</sup> Street, New York, New York 10022.
- (9) The address for St. Denis J. Villere & Company L.L.C. is 601 Poydras Street, Suite 1808, New Orleans, Louisiana 70130.
- (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 Bank, N.A., Wells Fargo Funds Management, LLC, Wells Fargo Investment Group, Inc. and Wells Fargo Advisors, LLC. The address for Wells Fargo & Company is 420 Montgomery Street, San Francisco, California 94104.
- (11) The address for Wellington Management Company, LLP is 280 Congress Street, Boston, Massachusetts 02210. Wellington Management Company, LLP reported that it has shared voting power with respect to 4,876,827 shares and shared dispositive power with respect to 8,976,135 shares.
- (12) 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 7 above. Mr. Lapeyre disclaims beneficial ownership of any shares held by Laitram.

#### **Section 16(a) Beneficial Ownership Reporting Compliance**

Section 16(a) of the Exchange Act requires directors and certain officers of ION, and persons who own more than 10% of ION'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 our review of the copies of such reports, we believe that, during 2012 our directors, executive officers and stockholders holding greater than 10% of our 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.



## EXECUTIVE OFFICERS

Our executive officers are as follows:

<u>Name</u>	<u>Age</u>	<u>Position with ION</u>
R. Brian Hanson . . . . .	48	President and Chief Executive Officer and Director
Christopher T. Usher . . . . .	52	Executive Vice President and Chief Operating Officer, GeoScience Division
Ken Williamson . . . . .	48	Executive Vice President and Chief Operating Officer, GeoVentures Division
Gregory J. Heinlein . . . . .	49	Senior Vice President and Chief Financial Officer
David Moffat . . . . .	56	Senior Vice President, Marine Imaging Systems Division
David L. Roland . . . . .	51	Senior Vice President, General Counsel and Corporate Secretary
Michael L. Morrison . . . . .	42	Vice President and Corporate Controller

For a description of the business background of Mr. Hanson, please see “*Item 1 — Election of Directors — Class I Incumbent Directors — Term Expiring in 2015*” above.

Mr. Usher has been our Executive Vice President and Chief Operating Officer, GeoScience Division, since November 2012. Prior to joining our 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.

Mr. Williamson joined ION as Vice President of our 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.

Mr. Heinlein has been our Senior Vice President and Chief Financial Officer since November 2011. Prior to joining ION, 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.

Mr. Moffat has been Senior Vice President of our Marine Imaging Systems Division since June 2007. In 1989, he joined Concept Systems, Ltd., a Scotland-based supplier of advanced real-time navigation and data integration software and services to the E&P industry, and served in various engineering and managerial roles, including after ION's acquisition of Concept in 2004. From 2006 to 2007, Mr. Moffat was the Vice President and Managing Director of Concept. Prior to joining Concept in 1989, Mr. Moffat was employed in various engineering design and development positions within the electronics defense and data security industry in the United Kingdom. Between 1973 and 1981, he served as an officer in the British Merchant Navy. Mr. Moffat holds a Bachelor of Science degree with Distinction in electronic and communication engineering from Edinburgh Napier University.

Mr. Roland joined ION as Vice President, General Counsel and Corporate Secretary in April 2004 and became a Senior Vice President in January 2007. Prior to joining ION, 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.

Mr. Morrison joined ION in June 2002 as our Assistant Controller, became our Controller and Director of Accounting in November 2002 and Vice President and Corporate Controller in January 2007. Prior to joining ION, Mr. Morrison held several positions at Enron Corp., most recently as Director of Transaction Support. Mr. Morrison had held a variety of positions at Deloitte & Touche, LLP, a public accounting firm, from January 1994 until he joined Enron in June 2000. Mr. Morrison holds a Bachelor of Business Administration degree in accounting from Texas A&M University.

## EXECUTIVE COMPENSATION

*Introductory note: The following discussion of executive compensation contains descriptions of various employee benefit plans and employment-related agreements. These descriptions are qualified in their entirety by reference to the full text or detailed descriptions of the plans and agreements, which are filed or incorporated by reference as exhibits to our annual report on Form 10-K for the year ended December 31, 2012. In this discussion, the terms “ION,” “we,” “our” and “us” refer to ION Geophysical Corporation and its consolidated subsidiaries, except where the context otherwise requires or as otherwise indicated.*

### Compensation Discussion and Analysis

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

<u>Name</u>	<u>Title</u>
R. Brian Hanson . . . . .	President and Chief Executive Officer (our 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 (our principal financial officer)
David L. Roland . . . . .	Senior Vice President, General Counsel and Corporate Secretary

### Executive Summary

*General.* The objectives and major components of our executive compensation program did not materially change from 2012 to 2013. While we regularly review and fine-tune our compensation programs, we believe consistency in our compensation program and philosophy is important to effectively motivate and reward top-level management performance and for the creation of stockholder value. We continue to provide our 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 our compensation program continue to be performance-based, and a significant portion of each executive’s total annual compensation is at risk and dependent upon our company’s achievement of specific, measurable performance goals. Our performance-based pay is designed to align our executive officers’ interests with those of our stockholders and to promote the creation of stockholder value, without encouraging excessive risk-taking. In addition, our equity programs, combined with our executive share ownership requirements, are designed to reward long-term stock performance.

Base salaries for several of our named executive officers were increased in January 2013, consistent with our usual base salary review process and practice. Payments under our annual bonus incentive plan for 2012 reflected our company’s performance and the level of achievement of our 2012 plan performance goals. As discussed further in this proxy statement under the heading “*Bonus Incentive Plan,*” our 2012 adjusted operating income increased 40% over 2011 and slightly exceeded our target

consolidated financial performance criteria under our 2012 bonus plan. As a result, all of our eligible named executive officers received cash bonus payments under the 2012 plan.

Grants made under our long-term stock incentive plan during 2012 also reflected our company's successful performance in 2012. The annual grants made to our named executive officers on December 1, 2012 were generally consistent with grants made to named executive officers in previous years.

*Principal Changes in Compensation during 2012.* At our 2012 Annual Meeting of Stockholders held on May 23, 2012, our stockholders approved all of our director nominees and proposals, including a non-binding advisory ("say-on-pay") vote to approve the compensation of our executive officers. In the advisory executive compensation vote, over 96% of the votes cast on the proposal voted in favor of our compensation practices and policies. Our general goal since our 2012 Annual Meeting has been to continue to act consistently with the established practices that were overwhelmingly approved by our stockholders. We believe that we have accomplished that goal. In addition, because our stockholders voted in a non-binding advisory vote held at our 2011 Annual Meeting in favor of our holding an advisory ("say-on-frequency") vote on executive compensation every year, we will continue to hold an annual advisory vote to approve the compensation of our named executive officers. When and if our Board determines that it is in the best interest of our company to hold our say-on-pay vote with a different frequency, we will propose such a change to our stockholders at the next annual meeting of stockholders to be held following the Board's determination. Presently, under SEC rules, we are not required to hold another say-on-frequency vote again until our 2016 annual meeting of stockholders.

## Introduction/Corporate Governance

### **Compensation Committee**

The Compensation Committee of our Board of Directors reviews and approves, or recommends to the Board for approval, all salary and other remuneration for our executive officers and oversees matters relating to our employee compensation and benefit programs. No member of the committee is an employee of ION. The Board has determined that each member of the committee satisfies the definition of "independent" as established in the NYSE corporate governance listing standards.

The committee operates pursuant to a written charter that sets forth its functions and responsibilities. A copy of the charter can be viewed on our website at <http://ir.iongeo.com/phoenix.zhtml?c=101545&p=irol-govhighlights>. For a description of the responsibilities of the committee, see "Item 1. — Election of Directors — Committees of the Board — Compensation Committee" above.

During 2012, the committee met in person or by conference call three times. In addition, the committee took action by unanimous written consent, as permitted under Delaware law and our Bylaws, four times during 2012, primarily to approve individual non-executive employee grants of restricted stock and stock options. We believe that each of these individual grants made by unanimous written consent of the committee complied with the applicable grant date requirements under Financial Accounting Standards Board (FASB) Accounting Standards Codification Topic (ASC) 718, "Compensation — Stock Compensation" ("ASC Topic 718").

### **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 2010, the committee engaged ISS Corporate Services, Inc., a wholly-owned subsidiary of RiskMetrics Group, Inc., to provide the company with benchmarking and modeling services related to its 2010 annual meeting proposals to (i) amend ION's 2004 LTIP to increase the total number of shares of ION's common

stock available for issuance under the plan and (ii) approve a proposed employee stock purchase plan. During 2011, the committee engaged Performensation Consulting, an equity compensation consulting firm, to provide advisory services with regard to the preparation of our 2011 proxy statement and to provide the committee with analysis on the number of shares to propose to stockholders to add to our stock plan at our 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, the committee engaged Performensation Consulting to provide advisory services with regard to the preparation of our 2012 and 2013 proxy statements, respectively.

In addition, when reviewing benchmark compensation data in connection with our annual review of employee salaries, in October 2011 our Human Resources department reviewed market survey data from Towers Watson, Mercer, Radford and Frost. See “ — *Objectives of Our Executive Compensation Programs — Benchmarking*” below.

From 2010 to date, none of ISS, Performensation Consulting, Aon Hewitt, Towers Watson, Mercer, Radford or Frost has received compensation, or advised our company or our 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 proposed NYSE listing standards. Among the factors considered by the committee were the following:

- other services provided to our company by Performensation Consulting;
- fees paid by us 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 our common stock owned by the individual consultants involved in the engagement; and
- any business or personal relationships between our 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.

### **Role of Management in Establishing and Awarding Compensation**

On an annual basis, our Chief Executive Officer, with the assistance of our Human Resources department, recommends to the Compensation Committee any proposed increases in base salary, bonus payments and equity awards for our 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, our 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 Our Executive Compensation Programs — Benchmarking*” and “ — *Elements of Compensation — Base Salary*” below.

Our Chief Executive Officer, with the assistance of our Human Resources department and input from our 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 our process for formulating the employee bonus incentive plan and the factors that we consider, 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 our 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 Our Executive Compensation Programs — Benchmarking*” below.

Certain members of our senior management generally attend most meetings of the Compensation Committee, including our Chief Executive Officer, our Senior Vice President — Global Human Resources, and our 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 our 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 Our Executive Compensation Programs**

#### **General Compensation Philosophy and Policy**

Through our compensation programs, we seek 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 our 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 our executives with those of our stockholders by providing a significant portion of total pay in the form of stock-based incentives;
- encourage long-term commitment to our company; and
- limit corporate perquisites to seek to avoid perceptions both within and outside of our company of “soft” compensation.

Our 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 our management on the long-term interests of our company. Base salary, annual incentives and employee benefits should be close to competitive levels when compared to similarly-situated companies.

*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.* We emphasize total compensation opportunities consistent on average with our 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 our 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 our 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 our Chief Executive Officer and our 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.* Our core compensation philosophy is to pay our executive officers competitive levels of compensation that best reflect their individual responsibilities and contributions to our company, while providing incentives to achieve our business and financial objectives. While comparisons to compensation levels at other companies (discussed below) are helpful in assessing the overall competitiveness of our compensation program, we believe that our executive compensation program also must be internally consistent and equitable in order for our company to achieve our corporate objectives. Each year our Human Resources department reports to the Compensation Committee the total compensation paid to our 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, we 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 of our executive officers and key employees. We do not follow the principles in a mechanistic fashion; rather, we apply 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, we also look at the compensation of our Chief Executive Officer and other executive officers relative to the compensation paid to similarly-situated executives at companies that we consider to be our industry and market peers — a practice often referred to as “benchmarking.” We believe, however, that a benchmark should be just that — a point of reference for measurement — but not the determinative factor for our executives' 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 we consider 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, our Human Resources department, under the oversight of the Compensation Committee, reviews data from market surveys, independent consultants and other sources to assess our competitive position with respect to base salary, annual incentives and long-term incentive compensation. When reviewing compensation data in October 2012, we utilized data primarily from Radford salary surveys, the Mercer U.S. Compensation Planning Survey, TowersWatson executive salary surveys and Frost's 2012 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 2012 OFMS Survey compiled proxy compensation data from 53 oilfield services companies and survey results from the following 19 oilfield services companies:

Baker Hughes, Inc.	ION Geophysical Corporation
Bristow Group, Inc.	National Oilwell Varco, Inc.
Calfrac Well Services Ltd.	Newpark Resources, Inc.
Cameron International Corp.	Oil States International, Inc.
Core Laboratories NV	Pioneer Energy Services Corp.
EnSCO PLC	Superior Energy Services, Inc.
Exterran Holdings, Inc.	TETRA Technologies, Inc.
Forum Energy Technologies, Inc.	Vantage Drilling Company
Gulfmark Offshore, Inc.	Weir Specialty Products Manufacturing
Helmerich & Payne, Inc.	

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 2012 OFMS Survey is slightly different from the list of companies included in the OFMS Survey for 2011 and previous years and will likely be different from the list of companies to be included in future OFMS Surveys.

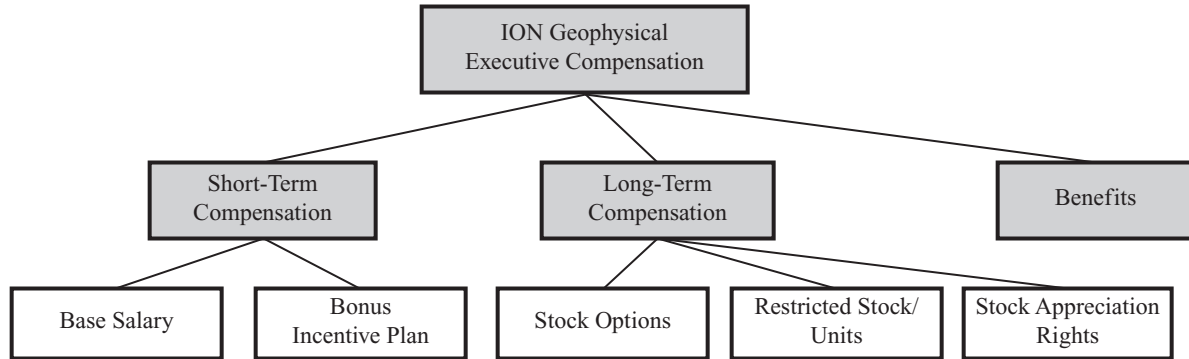
The overall results of the compensation surveys provide the starting point for our compensation analysis. We believe that the surveys contain relevant compensation information from companies that are representative of the sector in which we operate, have relative size as measured by market capitalization and experience relative complexity in the business and the executives' roles and responsibilities. Beyond the survey numbers, we look extensively at a number of other factors, including our estimates of the compensation at our most comparable competitors and other companies that were closest to our company in size, profitability and complexity. We also consider 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 our Chief Executive Officer and some of our other executive officers, we also consider our company's 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 our periodic review of compensation, we also regularly monitor market conditions and will adjust compensation levels from time to time as necessary to remain competitive and retain our most valuable employees. When we experience a significant level of competition for retaining current employees or hiring new employees, we will typically reevaluate our compensation levels within that employee group in order to ensure our competitiveness.

## Elements of Compensation

The primary components of our executive compensation program are as follows:



Below is a summary of each component:

### **Base Salary**

*General.* The general purpose of base salary for our 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 our Chief Executive Officer may also reflect our 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 our strategic direction and our financial and operating results. As of January 2013, our Chief Executive Officer's annual base salary was 27% higher than the annual base salary for the next highest-paid named executive officer and 32% higher than the average annual base salary for all of our other currently-serving named executive officers. The committee does not intend for base salaries to be the vehicle for long-term capital and value accumulation for our executives.

*2012 and 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 ION, experience, impact on total compensation, relationship of compensation to other ION 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.

Certain of our named executive officers received an increase in base salary in January 2013, as described below:

<u>Named Executive Officer</u>	<u>Action</u>
R. Brian Hanson . . . . .	When Mr. Hanson was promoted to President and Chief Executive Officer on January 1, 2012, his annual base salary was \$450,000. In recognition of Mr. Hanson's performance during his first year as CEO, in January 2013, the Compensation Committee increased Mr. Hanson's base salary to \$490,000. The 2012 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 \$584,000.
Christopher T. Usher . . . . .	On November 30, 2012, Mr. Usher was hired as Executive Vice President and Chief Operating Officer, GeoScience Division, at an annual base salary of \$350,000. Compensation surveys from 2012 OFMS Survey indicated that the weighted average 50th percentile for COO base salary for surveyed companies having annual revenues of less than \$1 billion was \$425,801.
Ken Williamson . . . . .	Compensation surveys from the 2012 OFMS Survey indicated that the weighted average 50th percentile for COO base salary for surveyed companies with revenues less than \$1 billion was \$425,801. On December 3, 2012, Mr. Williamson was promoted from Senior Vice President, GeoVentures, to Executive Vice President and Chief Operating Officer, GeoVentures Division. In recognition of his promotion and his expertise, capabilities and performance as the leader of the GeoVentures Division that contributed significantly to the company's overall financial results during 2012, in January 2013 the Compensation Committee increased Mr. Williamson's annual base salary from \$340,000 to \$358,000.
Gregory J. Heinlein . . . . .	Compensation surveys from Radford, TowersWatson and the 2012 OFMS Survey indicated that the weighted average 50th percentile for Chief Financial Officer base salary for surveyed companies having annual revenues of less than \$1 billion was \$333,879. In recognition of Mr. Heinlein's job performance and experience and expertise in restructuring and managing the finance and accounting departments during 2012, in January 2013 the Compensation Committee increased Mr. Heinlein's annual base salary from \$300,000 to \$312,000.
David L. Roland . . . . .	Compensation surveys from TowersWatson and the 2012 OFMS Survey indicated that the weighted average 50th percentile for Chief Legal Officer base salary for surveyed companies having annual revenues of less than \$1 billion was \$302,500. In recognition of Mr. Roland's experience and expertise in effectively handling a wide variety of legal issues for the company during 2012, including responsibility for leading the Company's litigation efforts, in January 2013 the Compensation Committee increased Mr. Roland's annual base salary from \$300,000 to \$315,000.



## **Bonus Incentive Plan**

Our 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 our company and, in turn, our stock.

In recent years, we have 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.

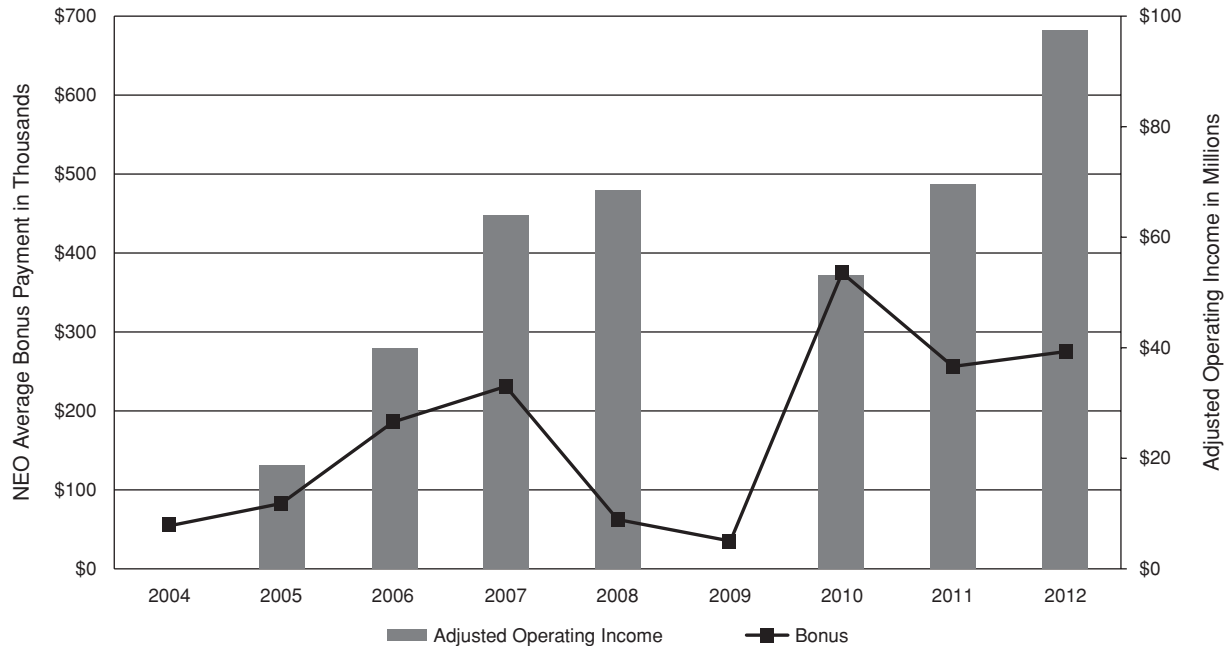
Our annual bonus incentive plan is usually consistent with our operating plan for the same year. In late 2011, we prepared a consolidated company operating budget for 2012 and individual operating budgets for each operating unit. The budgets took into consideration our views on market opportunities, customer and sale opportunities, technology enhancements for new products, product manufacturing and delivery schedules and other operating factors. The Board of Directors analyzed the proposed budgets with management extensively and, after analysis and consideration, the Board approved the consolidated 2012 operating plan. During late 2011 and early 2012, our Chief Executive Officer worked with our Human Resources department and members of senior management to formulate our 2012 bonus incentive plan, consistent with the 2012 operating plans approved by the Board.

At the beginning of 2012, the Compensation Committee approved our 2012 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 2013, the committee reviewed the company's actual performance against each of the plan performance goals established at the beginning of 2012 and evaluated the individual performance during the year of each participating named executive officer. The results of operations of the company for 2012 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, stock appreciation rights or a combination thereof. Any stock options, restricted stock or restricted stock units awarded would be granted under one of our existing long-term equity compensation plans. Any stock appreciation rights awarded would be granted under our Stock Appreciation Rights Plan. 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, our bonus incentive plans are designed for payouts that generally track the financial performance of our 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. The graph shown below illustrates how the average amount of cash payments paid under our annual bonus incentive plans to named executive officers has varied over the years in relation to our financial performance. As demonstrated in the graph below, in most years when company financial performance is strong, cash bonus payments are generally higher. Likewise, when our financial performance is low as compared to our internal targets and plans, cash bonus payments are generally lower. There are occasionally exceptions to this general trend. For example, in 2008 we

achieved an improved financial performance over the previous year, but average cash bonus awards under our 2008 annual bonus incentive plan were relatively lower because we did not achieve our internal financial and growth objectives for 2008. Likewise, in 2011 we grew adjusted operating income by 32% over 2010, but average cash bonus awards under our 2011 annual bonus incentive plan were lower than in 2010 because we did not achieve our internal financial objectives for 2011. In 2012, our adjusted operating income grew 40% over 2011 but our average bonus award paid to named executive officers remained at approximately the same level as 2011 because our internal financial objectives for 2012 were higher than in 2011. This history demonstrates a clear and consistent link between our executive officer bonus incentive compensation and our performance.



Below are general descriptions of our 2012 bonus incentive plan and our company performance criteria applicable to the plan:

#### 2012 Bonus Incentive Plan

The purpose of the 2012 bonus incentive plan was to:

- provide an incentive for our participating employees to achieve their highest level of individual and business unit performance in order to accomplish our company's 2012 strategic and financial goals and
- reward the employees for those achievements and accomplishments.

Designated employees, including our named executive officers, were eligible to participate in our 2012 bonus incentive plan. Under the 2012 plan, approximately 25% of the funds allocated for distribution were available for awards to eligible employees regardless of the company's 2012 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 2012 financial performance criteria. In addition, the 2012 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 the pre-defined financial objectives.

As reported in the chart below, our 2012 bonus incentive plan established a 2012 target consolidated operating income performance goal. Consolidated operating income was selected as the most appropriate performance goal for our 2012 plan because the committee believed that operating income was the best indicator of our company’s overall business trends and performance and evidenced a direct correlation with the interests of our stockholders and our company performance. When determining annual operating income for purposes of the bonus incentive plan, the actual operating income number is adjusted as necessary to reflect the accounting impact of any special accounting events, such as write-offs, and also to reflect any other items that may have the effect of altering actual results, such as dispositions of business units. Under the plan, every participating named executive officer other than our Chief Executive Officer had the opportunity to earn up to 100% of his base salary depending on performance of our company against the designated performance goal and performance of the executive against personal criteria determined at the beginning of 2012 by our Chief Executive Officer. Under separate terms approved by the Compensation Committee and contained in his employment agreement, Mr. Hanson, who served as our Chief Executive Officer during 2012, 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. Our Chief Executive Officer typically carries a higher target and maximum bonus incentive plan percentage as compared to our other named executive officers as a result of his leadership role in setting company policy and strategic planning.

*Performance Criteria.* In early 2012, 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 2012 bonus incentive plan:

<u>Threshold Operating Income</u>	<u>Target Operating Income</u>	<u>Maximum Operating Income</u>
\$77.9 million	\$97.4 million	\$158.8 million

Where an employee is primarily involved in a particular business unit, the financial performance criteria under our 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 our 2012 Summary Compensation Table below reflects the payments that our named executive officers earned and received under our 2012 bonus incentive plan, and the “*Bonus*” column of the same table reflects any discretionary cash bonus payments received by our named executive officers during 2012. During 2012, on a consolidated basis, we achieved adjusted consolidated operating income of \$97.42 million. Our 2012 adjusted operating income represented a 40% improvement over 2011 and we slightly exceeded our target consolidated financial performance criteria under our 2012 bonus incentive plan. As a result, our eligible named executive officers and many other eligible executives and employees received a cash bonus award under the plan.

In addition to overall company performance, when considering the 2012 bonus incentive plan awards paid to our 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 its strong 2012 results, in re-focusing the strategies and organization of the company through its new GeoVentures and GeoScience divisions, and in achieving a smooth transition of the CEO duties from Mr. Peebler. When considering the bonus award paid to Mr. Williamson, among the factors the Committee took into consideration were the strong 2012 financial performance of his GeoVentures Division and his involvement and leadership in successful several cross-business unit projects during 2012. When considering the bonus awards paid to Mr. Heinlein and Mr. Roland, among the factors the Committee took into consideration was their

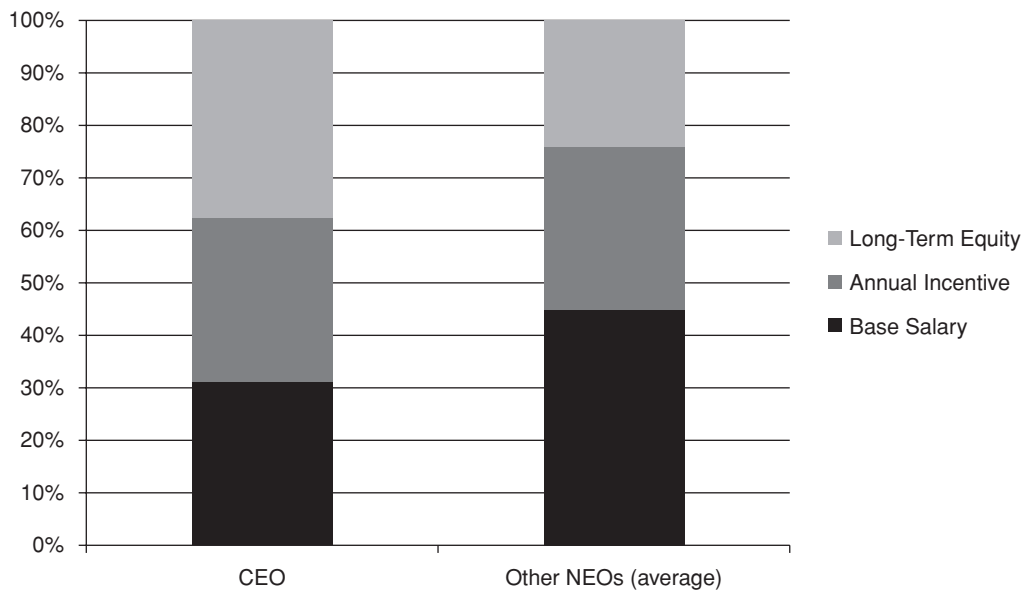
leadership and participation in pursuing a number of important projects during 2012. Mr. Usher did not join our company until November 2012, so he was not eligible for a 2012 bonus plan award.

In February 2013, the Compensation Committee approved our 2013 bonus incentive plan. The general structure of our 2013 bonus incentive plan is similar to that of our 2012 plan. The particular performance goals designated under our 2013 plan are higher than those designated for our 2012 plan, but reflect our confidential strategic plans, and cannot be disclosed at this time because it would provide our competitors with confidential information regarding our market and segment outlook and strategies. We are currently unable to determine how difficult it will be for our company to meet the designated performance goals under our 2013 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

We have structured our 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 our Chief Executive Officer, tends to be weighted towards rewarding long-term value creation for stockholders. The below table illustrates the mix of total compensation received by Mr. Hanson, our CEO, and our other current named executive officers during 2012 other than Mr. Usher, who was hired by the company on November 30, 2012:



For 2012, 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 2013, we have 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. Our long-term

incentive plans have provided the principal method for our executive officers to acquire equity or equity-linked interests in our company.

Of the total stock option or restricted stock employee awards made by ION during 2012, 70% were in the form of stock options and 30% were in the form of restricted stock or restricted stock units.

*Stock Options.* Under our equity plans, stock options may be granted having exercise prices equal to either the closing price of our stock on the date before the date of grant or the average of the high and low sale prices of our stock on the date of grant, depending on the terms of the particular stock option plan that governs the award. 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 our 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 our stockholders. Our stock options generally vest ratably over four years, based on continued employment. 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 our stock price and the creation of stockholder value. Stock options also allow our executive officers and key employees to have equity ownership and to share in the appreciation of the value of our 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, we also consider 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 2012, a total of 138 employees received option awards, covering 1,544,000 shares of common stock. In 2012, the named executive officers received option awards for a total of 225,000 shares, or approximately 15% of the total options awarded in 2012.

*Restricted Stock and Restricted Stock Units.* We use restricted stock and restricted stock units to focus executives on our 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. In 2012, 158 employees received restricted stock or restricted stock unit awards, covering an aggregate of 667,000 shares of restricted stock and shares underlying restricted stock units. The named executive officers received awards totaling 120,000 shares of restricted stock in 2012, or approximately 18% of the total shares of restricted stock awarded to employees in 2012.

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

*Cash-Settled Stock Appreciation Rights.* No stock appreciation rights have been awarded since 2008.

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, restricted stock unit and stock appreciation right 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 our 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 our 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. Our 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. We believe 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 our employees work.

All grants of restricted stock, restricted stock units, stock options and stock appreciation rights 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 us. 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 us 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. We believe 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, we generally make most awards of equity compensation on December 1 of each year. This date was selected because (i) it enables us 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 we normally pay 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 us.

#### **Clawback Policy**

We have a Compensation Recoupment Policy (commonly referred to as a “clawback” policy), which provides that, in the event of a restatement of our 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 our 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**

Our Board of Directors and executives have concluded that we 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 our executive officers are substantially the same as those offered to our 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. We intend to continue applying our general policy of not providing specific personal benefits and perquisites to our executives; however, we may, in our discretion, revise or add to any executive's personal benefits and perquisites if we deem it advisable.

## **Risk Management Considerations**

The Compensation Committee believes that our 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:

- 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 drive 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 our Chief Executive Officer is not expected to exceed 100% of the executive's base salary under the bonus plan, and the overall bonus for our 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.
- We have 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 our executives.
- Stock options generally 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 generally becomes exercisable over a three-year period, again encouraging executives to look to long-term appreciation in equity values.
- Senior executives, including our named executive officers, are required to acquire over time and hold shares of our 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, we do not permit any of our executive officers or directors to enter into any derivative or hedging transactions involving our 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.
- We have a compensation recoupment (clawback) policy that provides, in the event of a restatement of our 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**

Our Bylaws provide certain rights of indemnification to our directors and employees (including our 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 our company, to the full extent permitted by law. Our Bylaws also provide, however, that no such obligation to indemnify exists as to proceedings initiated by an employee or director against us or our 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 our Board of Directors.

As discussed below, we have also entered into employment agreements with certain of our executive officers that provide for us to indemnify the executive to the fullest extent permitted by our Certificate of Incorporation and Bylaws. The agreements also provide that we will provide the executive with coverage under our directors' and officers' liability insurance policies to the same extent as provided to our other executives.

### **Stock Ownership Requirements; Hedging Policy**

We believe that broad-based stock ownership by our employees (including our executive officers) enhances our ability to deliver superior stockholder returns by increasing the alignment between the interests of our employees and our stockholders. Accordingly, the Board has adopted stock ownership requirements applicable to each of our senior executives, including our named executive officers. The policy requires each executive to retain direct ownership of at least 50% of all shares of our 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 the date of this proxy statement, all of our senior executives were in compliance with the stock ownership requirements. In addition, we do not permit any of our executive officers or directors to enter into any derivative or hedging transactions with respect to our 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 our 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, we may not deduct annual compensation in excess of \$1 million paid to certain employees — generally our Chief Executive Officer and our 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 our best interests. To maintain flexibility in compensating executive officers in a manner designed to promote varying corporate goals, we have not adopted a policy that all compensation must be deductible.

Certain payments to our named executive officers under our 2012 annual incentive plan may not qualify as performance-based compensation under Section 162(m) because the awards are 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 our business and industry that have occurred during recent years and those that may occur in 2013 and subsequent years, we believe that we are better served in implementing a plan that provides for adjustments and discretionary elements for our senior executives’ incentive compensation, rather than ensuring that we implement 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 our 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, we apply the guidance in ASC Topic 718 to record compensation expense for our 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. We generally receive a corresponding tax deduction for compensation expense in the year of exercise. The amount included in the executive officer’s wages and the amount we 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. We do not pay or reimburse any executive officer for any taxes due upon exercise of a stock option. We have not historically issued any tax-qualified incentive stock options under Section 422 of the Internal Revenue Code.

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. We are 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 proxy statement 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 proxy statement and incorporated into ION's annual report on Form 10-K for the year ended December 31, 2012.

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



## SUMMARY COMPENSATION TABLE

The following table summarizes the compensation paid to or earned by our named executive officers at December 31, 2012.

Name and Principal Position	Year	Salary (\$)	Bonus (\$)	Stock Awards (\$)	Option Awards (\$)	Non-Equity Incentive Plan Compensation (\$)	All Other Compensation (\$)	Total (\$)
R. Brian Hanson . . . . . President, Chief Executive Officer and Director	2012	450,000	—	279,900	260,100	450,000	4,284	1,444,284
	2011	353,000	—	766,628	1,130,500	300,000	8,058	2,558,186
	2010	327,000	150,000	35,376	—	327,000	6,200	845,576
Christopher T. Usher . . . . . Executive Vice President and COO, GeoScience Division	2012	21,538	125,000	311,000	173,400	—	326	631,264
Ken Williamson . . . . . Executive Vice President and COO, GeoVentures Division	2012	340,000	—	93,300	173,408	300,000	7,454	914,154
	2011	300,000	—	87,150	192,700	300,000	8,250	888,100
	2010	272,712	—	71,900	355,550	272,712	5,978	978,852
Gregory J. Heinlein . . . . . Senior Vice President and Chief Financial Officer	2012	300,000	—	31,100	86,700	150,000	5,192	572,992
	2011	23,077	—	166,747	662,888	—	692	853,404
David L. Roland . . . . . Senior Vice President, General Counsel and Corporate Secretary	2012	300,000	—	31,100	86,700	200,000	7,615	625,415
	2011	286,000	—	29,050	96,350	130,000	8,250	549,650
	2010	270,000	125,000	71,900	106,000	185,000	5,919	763,819

### *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 our 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 2012 described in the “2012 Grants of Plan-Based Awards” table below:

- On June 1, 2010, Mr. Hanson received an award of 6,515 shares of restricted stock. These shares of restricted stock will vest on June 1, 2013.
- 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 our shares of common stock for the last ten business days of 2010. The shares of restricted stock will vest on March 1, 2014.
- At the beginning of 2011, Mr. Hanson was serving as our 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 our 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 the President and Chief Executive Officer of the company. 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, 2010 and December 1, 2011, Mr. Williamson received awards of 10,000 shares and 15,000 shares, respectively, 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, 2010 and December 1, 2011, Mr. Roland received awards of 10,000 and 5,000 shares, respectively, of restricted stock.

*Option Awards Column.* All of the amounts shown in the “Option Awards” column reflect stock options granted under our 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 13, *Stockholders’ Equity and Stock-Based Compensation — Valuation Assumptions*, in our Notes to Consolidated Financial Statements included in our Annual Report on Form 10-K for the year ended December 31, 2012. All of the exercise prices for the options equal or exceed the fair market value per share of ION common stock on the date of grant. In addition to the grants and awards in 2012 described in the “2012 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 March 1, 2010, Mr. Williamson received an award of options to purchase 75,000 shares of our common stock for an exercise price of \$4.58 per share.
- On December 1, 2010, Mr. Williamson received an award of options to purchase 35,000 shares of our common stock for an exercise price of \$7.19 per share.
- On December 1, 2011, Mr. Williamson received an award of options to purchase 50,000 shares of our common stock for an exercise price of \$5.81 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 our common stock for an exercise price of \$5.81 per share.
- On December 1, 2010, Mr. Roland received an award of options to purchase 25,000 shares of our common stock for an exercise price of \$7.19 per share.
- On December 1, 2011, Mr. Roland received an award of options to purchase 25,000 shares of our common stock for an exercise price of \$5.81 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 2012 were made in February 2013 with regard to the 2012 fiscal year and were earned and paid pursuant to our 2012 incentive plan. Also, on March 31, 2010, Messrs. Hanson and Roland each received discretionary bonus awards related to our successful and timely completion of various transactions related to our INOVA Geophysical land seismic equipment joint venture with BGP. In making the discretionary bonus awards, among the factors considered by the Compensation Committee was Mr. Hanson’s critical involvement in the

completion of the transactions and the related refinancing of most of our debt, and Mr. Roland's contributions to the completion of the transactions. See "Compensation Discussion and Analysis — Elements of Compensation — Bonus Incentive Plan" above.

We do not sponsor for our 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.

Our general policy is that our executive officers do not receive any executive "perquisites," or any other similar personal benefits that are different from what our salaried employees are entitled to receive. We provide 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. The amounts shown in the "All Other Compensation" column solely consist of employer matching contributions to ION's 401(k) plan.

#### 2012 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 (\$)	Maximum (\$)				
R. Brian Hanson . . . . .	—	—	337,500	675,000	—	—	—	—
	12/1/12	—	—	—	45,000	75,000	5.96	540,000
Christopher T. Usher(6) . . . . .	12/1/12	—	—	—	50,000	50,000	5.96	484,400
Ken Williamson . . . . .	—	85,000	170,000	340,000	—	—	—	—
	12/1/12	—	—	—	15,000	50,000	5.96	266,700
Gregory J. Heinlein . . . . .	—	75,000	150,000	300,000	—	—	—	—
	12/1/12	—	—	—	5,000	25,000	5.96	117,800
David L. Roland . . . . .	—	75,000	150,000	300,000	—	—	—	—
	12/1/12	—	—	—	5,000	25,000	5.96	117,800

(1) Reflects the estimated threshold, target and maximum award amounts for payouts under our 2012 incentive plan to our named executive officers. Under the plan, every participating executive other than Mr. Hanson, who served as our President and Chief Executive Officer during 2012, 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 our 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 our named executive officers under our 2012 bonus incentive plan, see the “Non-Equity Incentive Plan Compensation” column in the “Summary Compensation Table” above.

- (2) Our 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 our 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 our 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 ION common stock on the date of grant (on November 30, 2012, the last completed trading day prior to the December 1, 2012 grant date, the closing price per share on the NYSE was \$5.96).
- (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 13, *Stockholders’ Equity and Stock-Based Compensation — Valuation Assumptions*, in our Notes to Consolidated Financial Statements included in our Annual Report on Form 10-K for the year ended December 31, 2012.
- (6) On November 30, 2012, Mr. Usher was hired as the Company’s Executive Vice President and Chief Operating Officer, GeoScience Division. In connection with his hire, on December 1, 2012, Mr. Usher received an award of 50,000 shares of restricted stock and nonqualified stock options to purchase 50,000 shares of the Company’s common stock for an exercise price of \$5.96 per share.

#### **Employment Agreements**

In recent years we have not entered into employment agreements with employees other than our Chief Executive Officer and Chief Financial Officer. We have 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 us 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 ION with respect to other similarly situated employees.

The following discussion describes the material terms of our existing executive employment agreements:

#### **R. Brian Hanson**

In connection with his appointment as our 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 our President and Chief Executive Officer for an initial term of three years, with automatic two-year renewals thereafter. Any change of control of our 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 our 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 our common stock and (ii) shares of our restricted stock. Mr. Hanson will also be eligible to participate in other equity compensation plans that are established for our key executives, as approved by the Compensation Committee. In the agreement, we also agreed to indemnify Mr. Hanson to the fullest extent permitted by our Certificate of Incorporation and Bylaws, and to provide him coverage under our directors' and officers' liability insurance policies to the same extent as other company executives.

We may at any time terminate our 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 our 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, we 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 we breach any material provision of the agreement, we assign to Mr. Hanson any duties materially inconsistent with his position, we materially reduce his duties, functions, responsibilities, budgetary or other authority, or take other action that results in a diminution in his office, position, duties, functions, responsibilities or authority, we relocate his workplace by more than 50 miles, or we elect not to extend the term of his agreement.

In his agreement, Mr. Hanson agrees not to compete against us, assist any competitor, attempt to solicit any of our suppliers or customers, or solicit any of our 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 our 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 our company or his termination by us without cause or by him for good reason, see "*Potential Payments Upon Termination or Change of Control — R. Brian Hanson*" below.

### **Gregory J. Heinlein**

In connection with his hire as our 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 us, assist any competitor, attempt to solicit any of our suppliers or customers, or solicit any of our 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 our 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 our company or his termination by us without cause or by him for good reason, see "*Potential Payments Upon Termination or Change of Control — Gregory J. Heinlein*" below.



**David L. Roland**

In connection with his hire as our Senior Vice President, General Counsel and Corporate Secretary in 2004, we entered into an employment agreement with Mr. Roland. His employment agreement provides for an initial term of two years, with automatic one-year renewals thereafter. He will also be eligible to receive an annual performance bonus under our incentive compensation plan, with his target incentive compensation amount to be set at 50% of his annual base salary, and an opportunity under the plan to earn incentive compensation in an amount of up to 100% of his annual base salary. In the agreement, we also agreed to indemnify Mr. Roland to the fullest extent permitted by our Certificate of Incorporation and Bylaws, and to provide him coverage under our directors' and officers' liability insurance policies to the same extent as other company executives. The agreement does not contain any change-in control provisions or tax gross-up benefits. For a discussion of the provisions of Mr. Roland's employment agreement regarding compensation to him in the event of his termination without cause or for good reason, see "*— Potential Payments Upon Termination or Change of Control — David L. Roland*" below.

## 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 our named executive officers at December 31, 2012:

Name	Option Awards(1)				Stock Awards(2)	
	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	118,076	768,675
	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		
	62,500	187,500	7.07	9/1/2021		
	—	75,000	5.96	12/1/2022		
Christopher T. Usher	—	50,000	5.96	12/1/2022	50,000	325,500
Ken Williamson	70,000	—	10.85	12/1/2016	28,333	184,448
	16,000	—	15.43	12/1/2017		
	35,000	—	3.00	12/1/2018		
	37,500	12,500	2.83	6/1/2019		
	16,500	5,500	5.44	12/1/2019		
	37,500	37,500	4.58	3/1/2020		
	17,500	17,500	7.19	12/1/2020		
	12,500	37,500	5.81	12/1/2021		
—	50,000	5.96	12/1/2022			
Gregory J. Heinlein	43,000	129,000	5.81	12/1/2021	24,132	157,099
	—	25,000	5.96	12/1/2022		
David L. Roland	30,000	—	9.97	9/1/2016	11,665	75,939
	30,000	—	15.43	12/1/2017		
	22,500	—	3.00	12/1/2018		
	18,750	6,250	5.44	12/1/2019		
	12,500	12,500	7.19	12/1/2020		
	6,250	18,750	5.81	12/1/2021		
	—	25,000	5.96	12/1/2022		

(1) All stock option information in this table relates to nonqualified stock options granted under our various stock plans and employment inducement programs. All of the unvested options in this table vest 25% each year over a four-year period.

(2) The amounts shown represent shares of restricted stock granted under our 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 \$6.51 (the closing price per share of our common stock on the NYSE on December 31, 2012).
- (4) The amounts shown reflect awards of cash-settled SARs granted to Mr. Hanson on December 1, 2008 under our 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.

We do 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

### 2012 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, 2012:

<u>Name</u>	Option Awards		Stock Awards	
	Number of Shares Acquired on Exercise (#)	Value Realized on Exercise (\$)	Number of Shares Acquired on Vesting (#)	Value Realized on Vesting \$(1)
R. Brian Hanson(2) . . . . .	—	—	39,000	250,420
Christopher T. Usher . . . . .	—	—	—	—
Ken Williamson(3) . . . . .	—	—	10,333	64,271
Gregory J. Heinlein(4) . . . . .	—	—	9,568	59,513
David L. Roland(5) . . . . .	—	—	15,001	93,306

- (1) The values realized upon vesting of stock awards contained in the table are based on the market value of our 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) 14,000 shares by \$6.78 (the closing price per share of our common stock on the NYSE on September 4, 2012, the first NYSE trading date after his September 1, 2012 vesting date) and (b) 25,000 shares by \$6.22 (the closing price per share of our common stock on the NYSE on December 3, 2012, the first NYSE trading date after his December 1, 2012 vesting date).
- (3) The value realized by Mr. Williamson on the vesting of his restricted stock awards was calculated by multiplying 10,333 shares by \$6.22 (the closing price per share of our common stock on the NYSE on December 3, 2012, the first NYSE trading date after his December 1, 2012 vesting date).
- (4) The value realized by Mr. Heinlein on the vesting of his restricted stock awards was calculated by multiplying 9,568 shares by \$6.22 (the closing price per share of our common stock on the NYSE on December 3, 2012, the first NYSE trading date after his December 1, 2012 vesting date).
- (5) The value realized by Mr. Roland on the vesting of his restricted stock awards was calculated by multiplying 15,001 shares by \$6.22 (the closing price per share of our common on the NYSE on December 3, 2012, the first NYSE trading date after his December 1, 2012 vesting date).

## Potential Payments Upon Termination or Change of Control

Under the terms of our equity-based compensation plans and our employment agreements, our Chief Executive Officer and certain of our 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 our 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, 2012, 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 our 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 our company. At the time of entering into these arrangements, the committee considered the aggregate potential obligations of our company in the context of the desirability of hiring the individual and the expected compensation upon joining us. 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 our named executive officers upon termination of employment or a change of control of our company under their current employment agreements and our 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, 2012. 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, 2012, benefits paid to the named executive officer in fiscal 2012 and stock and option holdings of the named executive officer as of December 31, 2012. The summaries assume a price per share of ION common stock of \$6.51 per share, which was the closing price per share on December 31, 2012, 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 our 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 our 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 our 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:

- we terminate his employment other than for cause, death or disability;

- Mr. Hanson resigns for “good reason”; or
- a “change in control” involving our company occurs and, within 12 months following the change in control, (a) we or our successor terminate Mr. Hanson’s employment or (b) Mr. Hanson terminates his employment after we or our successor (i) elect not to extend the term of his employment agreement, (ii) assign to Mr. Hanson duties inconsistent with his CEO position, duties, functions, responsibilities, authority or reporting relationship to the Board under his employment agreement, (iii) become a privately-owned company as a result of a transaction in which Mr. Hanson does not participate within the acquiring group, (iv) are rendered a subsidiary or division or other unit of another company; or (v) take 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 our outstanding shares of common stock other than any acquisitions directly from ION, acquisitions by ION or an employee benefit plan maintained by ION, or certain permitted acquisitions in connection with a “Merger” (as defined in sub-paragraph (3) below);
- (2) changes in directors on our 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 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 ION — unless (i) owners of ION 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 ION 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 our 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 our 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 our other named executive officers currently hold outstanding awards under one or more of the following two equity compensation plans: our 2004 LTIP and our Stock Appreciation Rights Plan. Under these plans, a “change of control” will be deemed to have occurred upon any of the following (which we refer 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 ION, acquisitions by ION or an employee benefit plan maintained by ION, 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);
- (3) consummation of a reorganization, merger, consolidation or similar business combination involving ION, unless (i) owners of our common stock immediately following such transaction together own more than 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 our board of directors at the time the agreement for the transaction is signed; or
- (4) the sale of all or substantially all of our 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 our 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.

We believe 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 our company and within the seismic industry as our CFO and CEO, we believe Mr. Hanson’s severance structure is in our best interest because it ensures that for a two-year period after leaving our employment, Mr. Hanson will not be in a position to compete against us or otherwise adversely affect our 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, we 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 Us for Cause or by Mr. Hanson Other Than for Good Reason.* Upon any termination by us 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. We have 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, 2012, 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 . . .	900,000	675,000	15,755	—	—
Termination after Change in Control . . .	900,000	675,000	15,755	—	809,925
Change of Control (if not terminated),					
Death or Disability . . . . .	—	—	—	—	809,925
Retirement . . . . .	—	—	—	—	334,695
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.
- (2) Represents two times the estimate of the target bonus payment Mr. Hanson would be entitled to receive pursuant to our 2012 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, 2012, less the amount of premiums to be paid by Mr. Hanson for such coverage.
- (4) As of December 31, 2012, Mr. Hanson held 45,076 unvested shares of restricted stock that were granted prior to August 30, 2011, 73,000 unvested shares of restricted stock that were granted after August 30, 2011, and unvested stock options to purchase 262,500 shares of common stock. The value of accelerated unvested options was calculated by multiplying 75,000 shares underlying Mr. Hanson’s unvested options by \$6.51 (the closing price per share on December 31, 2012) and then deducting the aggregate exercise price for those shares (equal to \$5.96 per share). Options held by Mr. Hanson having an exercise price greater than \$6.51 were calculated as having a zero value. The value of unvested restricted stock to accelerate in the event of Change in Control, death or disability was calculated by multiplying 118,076 shares by \$6.51. The value of unvested restricted stock to accelerate in the event of retirement was calculated by multiplying 45,076 shares by \$6.51.

**Christopher T. Usher**

Mr. Usher is not entitled to receive any contractual severance pay if we terminate 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, 2012, his payments and benefits would have an estimated value as follows (less applicable withholding taxes):

<u>Scenario</u>	<u>Cash Severance (\$)(1)</u>	<u>Value of Accelerated Equity Awards \$(2)</u>
Without Cause . . . . .	—	—
Change of Control (regardless of termination), Death or Disability . . . . .	—	353,000
Retirement . . . . .	—	27,500
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, 2012, Mr. Usher held 50,000 unvested shares of restricted stock and unvested options to purchase 50,000 shares of our common stock. The value of accelerated unvested options was calculated by multiplying 50,000 shares underlying Mr. Usher’s unvested options by \$6.51 (the closing price per share on December 31, 2012) and then deducting the aggregate exercise prices for those shares (equal to \$5.96 per share). The value of unvested restricted stock that would accelerate and fully vest in the event of a Change in Control, death or disability was calculated by multiplying 50,000 shares by \$6.51.

**Ken Williamson**

Mr. Williamson is not entitled to receive any contractual severance pay if we terminate 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, (a) all options that Mr. Williamson holds would automatically accelerate and become fully vested and (b) all shares of restricted stock that Mr. Williamson was granted prior to August 30, 2011 would automatically accelerate and become fully vested.

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, 2012, his payments and benefits would have an estimated value as follows (less applicable withholding taxes):

<u>Scenario</u>	<u>Cash Severance (\$)(1)</u>	<u>Value of Accelerated Equity Awards (\$)(2)</u>
Without Cause . . . . .	—	—
Change of Control (regardless of termination), Death or Disability .	—	362,458
Retirement . . . . .	—	199,708
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, 2012, Mr. Williamson held 3,333 unvested shares of restricted stock that were granted prior to August 30, 2011, 25,000 unvested shares of restricted stock that were granted after August 30, 2011, and unvested options to purchase 160,500 shares of our common stock. The value of accelerated unvested options was calculated by multiplying 143,000 shares underlying Mr. Williamson’s unvested options by \$6.51 (the closing price per share on December 31, 2012) and then deducting the aggregate exercise prices for those shares (\$2.83 per share for 12,500 options, \$5.44 per share for 5,500 options, \$4.58 per share for 37,500 options, \$5.81 per share for 37,500 options and \$5.96 for 50,000 options). Options held by him having an exercise price greater than \$6.51 were calculated as having a zero value. The value of unvested restricted stock that would accelerate and fully vest in the event of a Change in Control, death or disability was calculated by multiplying 28,333 shares by \$6.51. The value of unvested restricted stock to accelerate in the event of retirement was calculated by multiplying 3,333 shares by \$6.51.

**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:

- we terminate 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.

*Termination by Us for Cause or by Mr. Heinlein Other Than for Good Reason.* Upon any termination by us 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.

Assuming Mr. Heinlein’s employment was terminated under each of these circumstances or a change of control occurred on December 31, 2012, his payments and benefits would have an estimated value as follows (less applicable withholding taxes):

<u>Scenario</u>	<u>Cash Severance (\$)(1)</u>	<u>Value of Accelerated Equity Awards (\$)(2)</u>
Without Cause or For Good Reason . . . . .	600,000	—
Change of Control (regardless of termination), Death or Disability .	—	261,149
Retirement . . . . .	—	104,050
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, 2012, Mr. Heinlein held unvested stock options to purchase 154,000 shares of common stock. The value of accelerated unvested options was calculated by multiplying 154,000 shares underlying Mr. Heinlein’s unvested options by \$6.51 (the closing price per share on December 31, 2012) and then deducting the aggregate exercise price for those shares (equal to \$5.81 per share for 129,000 options and \$5.96 per share for 25,000 options).

**David L. Roland**

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

- we terminate his employment other than for cause, death or disability; or
- Mr. Roland resigns for “good reason.”

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

- over a one-year period, a cash amount equal to his annual base salary;

- all incentive plan bonuses then due to him under the terms of the relevant incentive compensation plan in effect for any previous year and a prorated portion of the target incentive plan bonus that he would have been eligible to receive under any incentive compensation plan in effect with respect to the current year; and
- continuation of insurance coverage for Mr. Roland as of the date of his termination for a period of one year at the same cost to him as prior to the termination.

Upon a “Plan Change of Control” (see “— R. Brian Hanson — Change of Control Under Equity Compensation Plans” above), all of Mr. Roland’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. Roland’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. Roland holds would automatically accelerate and become fully vested. Upon his retirement, (a) all options that Mr. Roland holds would automatically accelerate and become fully vested and (b) all shares of restricted stock that Mr. Roland was granted prior to August 30, 2011 would automatically accelerate and become fully vested.

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

Mr. Roland’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 and the terms of the applicable stock plan and grant agreement. If Mr. Roland is terminated for cause, all of his vested and unvested stock options and unvested restricted stock will be immediately forfeited.

Assuming Mr. Roland’s employment was terminated under each of these circumstances or a change of control occurred on December 31, 2012, his payments and benefits would have an estimated value as follows (less applicable withholding taxes):

<u>Scenario</u>	<u>Cash Severance (\$)(1)</u>	<u>Bonus (\$)(2)</u>	<u>Insurance Continuation (\$)(3)</u>	<u>Value of Accelerated Equity Awards (\$)(4)</u>
Without Cause or For Good Reason . . .	300,000	150,000	15,711	—
Change of Control (regardless of termination), Death or Disability . . .	—	—	—	109,502
Retirement . . . . .	—	—	—	55,260
Voluntary Termination . . . . .	—	—	—	—

- (1) Payable over a one-year period. In addition to the listed amounts, if Mr. Roland resigns or his employment is terminated for any reason, he may be entitled to be paid for his unused vacation days. Mr. Roland 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) Represents an estimate of the target bonus payment Mr. Roland would be entitled to receive pursuant to our 2012 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. Roland, maintaining his same levels of medical, dental and other

insurance in effect as of December 31, 2012, less the amount of premiums to be paid by Mr. Roland for such coverage.

- (4) As of December 31, 2012, Mr. Roland held 3,333 unvested shares of restricted stock that were granted prior to August 30, 2011, 8,332 unvested shares of restricted stock that were granted after August 30, 2011, and unvested options to purchase 62,500 shares of our common stock. The value of accelerated unvested options was calculated by multiplying 50,000 shares underlying Mr. Roland's unvested options by \$6.51 (the closing price per share on December 31, 2012) and then deducting the aggregate exercise prices for those shares (equal to \$5.44 per share for 6,250 options, \$5.81 per share for 18,750 options, and \$5.96 per share for 25,000 options). Options held by Mr. Roland having an exercise price greater than \$6.51 were calculated as having a zero value. The value of unvested restricted stock that would accelerate and vest in full in the event of a Change in Control, death or disability was calculated by multiplying 11,665 shares by \$6.51. The value of unvested restricted stock to accelerate in the event of retirement was calculated by multiplying 3,333 shares by \$6.51.

#### **2012 Pension Benefits And Nonqualified Deferred Compensation**

None of our 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 us.



**Equity Compensation Plan Information**  
(as of December 31, 2012)

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

<u>Plan Category</u>	<u>Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights (a)</u>	<u>Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights (b)</u>	<u>Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column (a)) (c)</u>
<b>Equity Compensation Plans Approved by Stockholders</b>			
Amended and Restated 1996 Non-Employee Director Stock Option Plan . . . . .	125,000	\$ 7.00	—
2000 Long-Term Incentive Plan . . . . .	39,500	\$ 3.73	—
2003 Stock Option Plan . . . . .	57,500	\$12.82	79,250
2004 Long-Term Incentive Plan (“2004 LTIP”) . . . . .	7,413,475	\$ 7.07	2,859,678
2010 Employee Stock Purchase Plan . . . . .	—	—	1,265,311
Subtotal . . . . .	7,635,475		4,204,239
<b>Equity Compensation Plans Not Approved by Stockholders</b>			
ARAM Systems Employee Inducement Stock Option Program . . . . .	113,000	\$14.10	—
Concept Systems Employment Inducement Stock Option Program . . . . .	29,000	\$ 6.42	—
GX Technology Corporation Employment Inducement Stock Option Program . . . . .	150,875	\$ 7.09	—
Subtotal . . . . .	292,875		—
Total . . . . .	7,928,350		4,204,239

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

*ION Geophysical Corporation — ARAM Systems Employee Inducement Stock Option Program.* In connection with our acquisition of all of the capital stock of ARAM Systems, Ltd and its affiliates in September 2008, we entered into employment inducement stock option agreements with 48 key employees of ARAM as material inducements to their joining ION. 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 ION. 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 our acquisition of the share capital of Concept Systems Holding Limited in February 2004, we entered into employment inducement stock option agreements with 12 key employees of Concept as material inducements to their joining ION. 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 our acquisition of all of the capital stock of GX Technology Corporation in June 2004, we entered into employment inducement stock option agreements with 29 key employees of GXT as material inducements to their joining ION. 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 our 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.

## ITEM 2 — VOTE TO APPROVE THE 2013 LONG-TERM INCENTIVE PLAN

### Introduction

Since 2004, the 2004 Long-Term Incentive Plan (the “2004 LTIP”) has been in effect and has enabled the company to award non-employee directors and selected key employees with grants of restricted stock, stock options and other forms of equity compensation. The 2004 LTIP will expire in May 2014, and no awards may be granted under the 2004 LTIP after that date. Our Board of Directors believes it is desirable to continue to have an equity compensation plan in effect in order to (i) continue to promote stockholder value by providing appropriate incentives to key employees and certain other individuals who perform services for our company and (ii) continue awarding our non-employee directors with equity compensation as a means to retain capable directors and attract and recruit qualified new directors in a manner that promotes ownership of a proprietary interest in our company. As a result, in February 2013, our Compensation Committee and our Board approved a new equity compensation plan, called the 2013 Long-Term Incentive Plan (the “2013 LTIP”), subject to stockholder approval. Because the 2004 LTIP was part of our overall executive compensation program that was approved by holders of more than 96% of the shares voting on the proposal at our 2012 Annual Meeting, the 2013 LTIP is generally consistent with the terms of the 2004 LTIP, and contains substantially similar terms. We have summarized the principal terms of the 2013 LTIP below, as well as the principal differences between the two plans.

### Description of the 2013 LTIP

The material features of the 2013 LTIP are described below. The complete text of the 2013 LTIP is included as **Exhibit 1** to this proxy statement. The following summary is qualified by reference to the copy of the 2013 LTIP that is attached as **Exhibit 1**.

*General.* The 2013 LTIP is not subject to the provisions of the Employee Retirement Income Security Act of 1974, as amended (ERISA), and is not a “qualified plan” within the meaning of section 401 of the Internal Revenue Code. The primary objective of the 2013 LTIP is to promote the long-term financial success of our company and to increase stockholder value by: (a) encouraging the commitment of directors and key employees and consultants, (b) motivating superior performance of key employees and consultants by means of long-term performance related incentives, (c) encouraging and providing directors and key employees and consultants with a program for obtaining ownership interests in our company that link and align their personal interests to those of our stockholders, (d) attracting and retaining directors and key employees and consultants by providing competitive incentive compensation opportunities and (e) enabling directors and key employees and consultants to share in the long-term growth and success of our company.

The 2013 LTIP will be administered by the Compensation Committee. The 2013 LTIP provides for the granting of stock options, stock appreciation rights, performance share awards, performance units, restricted stock, restricted stock units and other equity-based awards that provide similar benefits. Certain awards under the 2013 LTIP may be paid in cash or common stock, as determined by the committee. The committee has discretion to select the participants who will receive awards and to determine the type, size and terms of each award. Eligible participants under the plan include our non-employee directors, key employees and independent consultants. The committee will also make all other determinations that it decides are necessary or desirable in the interpretation and administration of the plan. At the present time, all members of our Board of Directors other than R. Brian Hanson are considered non-employee directors for purposes of the 2013 LTIP.

*Shares Subject to the 2013 LTIP.* If our stockholders approve the 2013 LTIP, the Compensation Committee will be able to grant awards covering at any one time up to 3,730,000 shares of common stock, with a maximum of 1,300,000 of such shares being granted in the form of full-value awards, such as restricted stock, restricted stock units or other awards in which the recipient receives the entire value of each share that vests. The number of shares of common stock authorized under the 2013 LTIP and any awards outstanding under the 2013 LTIP is subject to adjustment to prevent the dilution of rights of plan participants resulting from stock dividends, stock splits, recapitalizations or similar transactions. The approval by stockholders of the 2013 LTIP authorizing the grant of up to 3,730,000 shares and the subsequent grant of awards under the plan will have a dilutive impact on the company's stockholders. In determining the number of shares reserved for issuance under the 2013 LTIP, we were mindful of the dilutive impact it will have on stockholders and determined this was the appropriate amount to reserve to fund future equity grants to employees and directors over the next several years. This number of shares will constitute 2.4% of the total number of shares of our common stock outstanding as of February 12, 2013. As of February 12, 2013, there were outstanding options and other equity awards with respect to 8,887,299 shares of our common stock, which represents 5.7% of the total number of shares of common stock outstanding as of that date. Of our outstanding stock options, options to purchase 5,846,650 shares are in-the-money as of February 12, 2013, and have a weighted average exercise price of \$5.57 per share. For further information regarding our equity compensation plans, please see the information set forth above in "*Executive Compensation — Compensation Discussion and Analysis — Long-Term Stock-Based Incentive Compensation.*"

*Awards under the 2013 LTIP.* Under the 2013 LTIP, the Compensation Committee may grant awards in the form of Incentive Stock Options (ISOs), as defined in section 422 of the Internal Revenue Code, "nonstatutory" stock options (NSOs), shares of restricted stock, restricted stock units, stock appreciation rights (SARs), performance shares, performance units and other stock-based awards. ISOs and NSOs together are referred to as "options" for purposes of this description of the 2013 LTIP. The terms of each award are reflected in an incentive agreement between our company and the participant.

*Options.* Generally, options must be exercised within 10 years of the grant date, except with respect to ISO grants to a 10% or greater stockholder, which are required to be exercised within five years. The exercise price of each option may not be less than 100% of the fair market value of a share of common stock on the date of grant, or 110% in the case of an ISO grant to a 10% or greater stockholder. To the extent the aggregate fair market value of shares of common stock for which ISOs are exercisable for the first time by any employee during any calendar year exceeds \$100,000, those options must be treated as NSOs. The exercise price of each option is payable in cash or, in the Compensation Committee's discretion, by the delivery of shares of common stock owned by the optionee, or by any combination of these methods. No option issued under the 2013 LTIP may be repriced, replaced or regranted through cancellation or by lowering the option exercise price of a previously granted option.

*Restricted Stock/Restricted Stock Units.* Included in this category of awards are nonperformance-based grants of shares of restricted stock and restricted stock units that vest over a period of time based on the participant's continuing employment with ION or its subsidiaries. Unless the Compensation Committee determines otherwise at the date of grant, shares of restricted stock will carry full voting rights. Certificates for unrestricted shares of common stock will be delivered electronically to the participant when the restrictions on the restricted stock lapse. The committee may also grant restricted stock units under the 2013 LTIP, which entitle the participant to the issuance of shares of our common stock when the restrictions on the units awarded lapse.

*SARs.* Upon the exercise of a SAR, the holder will receive cash, common stock, or a combination thereof, the aggregate value of which equals the amount by which the fair market value per share of the common stock on the exercise date exceeds the exercise price of the SAR, multiplied by the number of shares underlying the exercised portion of the SAR. SARs are subject to such conditions and are exercisable at such times as determined by the Compensation Committee, but the exercise price per share must at least be equal to the fair market value of a share of common stock on the date of grant.

*Performance Shares.* Performance shares are awards of common stock contingent upon the degree to which performance objectives selected by the Compensation Committee are achieved during a specified period, subject to adjustment by the committee. The committee establishes performance objectives that may be based upon company, business segment, participant or other performance objectives as well as the period during which such performance objectives are to be achieved. Examples of performance criteria include, but are not limited to, pre-tax or after-tax profit levels, including: earnings per share, earnings before interest and taxes, earnings before interest, taxes, depreciation and amortization, net operating profits after tax, and net income; total shareholder return; return on assets, equity, capital or investment; cash flow and cash flow return on investment; economic value added and economic profit; growth in earnings per share; levels of operating expense and maintenance expense or measures of customer satisfaction and customer service as determined from time to time, including the relative improvement therein. The committee may make such adjustments in the computation of any performance measure, provided that any such modification does not prevent an award from qualifying for the "Performance-Based Exception" under section 162(m) of the Internal Revenue Code, which is described below. Performance shares may be awarded alone or in conjunction with other awards. Payment of performance shares may be made only in shares of common stock.

*Performance Units.* Performance units are awards of a right to receive shares of common stock contingent upon the degree to which performance objectives selected by the Compensation Committee are achieved during a specified period, subject to adjustment by the committee. The establishment and types of performance objectives with regard to performance units is the same as described above with regard to performance shares. Performance units may be awarded alone or in conjunction with other awards. Payment on performance units may be made in shares of common stock or in cash.

*Other Stock-Based Awards.* Other stock-based awards are denominated or payable in, valued in whole or in part by reference to, or otherwise related to, shares of common stock. Other types of stock-based awards include, without limitation, deferred stock, purchase rights, shares of common stock awarded which are not subject to any restrictions or conditions, convertible or exchangeable debentures, other rights convertible into shares, incentive awards valued by reference to the value of securities of or the performance of a specified subsidiary, division or department, and settlement in cancellation of rights of any person with a vested interest in any other plan, fund, program or arrangement that is or was sponsored or maintained by our company or any subsidiary, or in which our company or any subsidiary participated. Subject to the terms of the 2013 LTIP, the Compensation Committee may determine the terms and conditions of any stock-based awards, and those terms are to be set forth in the incentive agreement with the participant.

*Supplemental Payments.* The Compensation Committee, either at the time of grant or at the time of exercise of an NSO or SAR or the time of vesting of performance shares, may provide for a supplemental payment by our company to the participant in an amount specified by the committee. The supplemental payment amount shall not exceed the amount necessary to pay the federal and state income tax payable with respect to the exercise of the NSO or SAR, the vesting of the performance shares and the receipt of a supplemental payment in connection therewith, assuming the participant is taxed at either the maximum effective income tax rate or at a lower tax rate, as deemed appropriate by the committee. The committee shall have the discretion to grant supplemental payments that are payable in common stock or cash, determined by the committee at the time of the payment.

*Termination of Employment and Change in Control.* Except as otherwise provided in the applicable incentive agreement, if a participant's employment or other service is terminated other than due to his death, disability, retirement or for cause, any non-vested portion of stock options or other applicable awards will terminate and no further vesting will occur. In such event, the then-exercisable options and awards will remain exercisable until the earlier of the expiration date set forth in the incentive agreement or three months after the date of termination of employment. If termination of employment is due to disability or death, (a) any restrictions on stock-based awards will be deemed satisfied and all outstanding options will accelerate and become immediately exercisable and (b) the participant's then exercisable options will remain exercisable until the earlier of the expiration date of such options or one year following termination. If termination of employment is due to retirement with at least five years of service, (a) all non-vested shares of restricted stock, restricted stock units and other awards other than stock options will terminate and no further vesting will occur, (b) all outstanding non-vested stock options will accelerate and become immediately exercisable and (c) the participant's then exercisable options will remain exercisable until the earlier of the expiration date of such options or one year following termination. Upon termination for cause, all vested and non-vested options and unvested restricted stock will expire at the effective date of termination. Upon a "change in control" (as defined below), any restrictions on stock-based awards will be deemed satisfied, all outstanding options and SARs will accelerate and become immediately exercisable and all the performance shares and any other stock-based awards will become fully vested and deemed earned in full.

Under the 2013 LTIP, a "change in control" will be deemed to have occurred upon any one or more of the following:

- (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 ION, acquisitions by ION or an employee benefit plan maintained by ION, 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);
- (3) consummation of a reorganization, merger, consolidation or similar business combination involving ION, unless (i) owners of our common stock immediately following such transaction together own more than 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 our 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.



*Transferability.* Awards granted under the 2013 LTIP are not transferable or assignable and cannot be pledged, or otherwise encumbered other than by will or the laws of descent and distribution. However, with respect to awards that are not Incentive Stock Options, the Compensation Committee may, in its discretion, authorize all or a portion of the award to be granted on terms that permit transfer by the participant to (i) the members of the participant's immediate family, (ii) a trust or trusts for the exclusive benefit of immediate family members, (iii) a partnership in which immediate family members are the only partners, (iv) any other entity owned solely by immediate family members or (v) pursuant to a qualified domestic relations order. Following any permitted transfer, the award shall continue to be subject to the same terms and conditions as were applicable immediately prior to transfer. The events of termination of employment as set out in the plan shall continue to be applied with respect to the original grantee, and the award shall be exercisable by the transferee only to the extent, and for the periods, specified in the incentive agreement.

Except as provided above, shares of restricted stock and/or restricted stock units may not be sold, transferred, pledged or assigned until the end of the applicable period of restriction established by the Compensation Committee and specified in the incentive agreement (and in the case of restricted stock units, until the date of delivery or other payment), and performance shares and performance units may not be sold, transferred, pledged or assigned until the end of the applicable performance period established by the committee and specified in the incentive agreement (and, in the case of performance units, until the date of delivery or other payment), and the performance criteria have been met and confirmed by the committee. All rights with respect to restricted stock, restricted stock units, performance shares and performance units shall be available during the grantee's lifetime only to the grantee, except as otherwise provided in the applicable incentive agreement.

*Performance-Based Exception.* Under section 162(m) of the Internal Revenue Code, we may deduct, for federal income-tax purposes, compensation paid to our chief executive officer and our four other most highly compensated executive officers only to the extent that such compensation does not exceed \$1,000,000 for any such individual during any year, excluding compensation that qualifies as "performance-based compensation." The 2013 LTIP includes features necessary for certain awards under the plan to qualify as "performance-based compensation." To qualify, stock options granted under the 2013 LTIP to covered individuals must have an exercise price per share that is not less than the fair market value of a share of the common stock on the date of grant. Performance shares may qualify for the exemption only if the Compensation Committee establishes in writing objective performance goals for such awards no later than 90 days after the commencement of the performance period and no payments are made to participants pursuant to the awards until the committee certifies in writing that the applicable performance goals have been met.

*Federal Tax Consequences.* The U.S. federal income tax discussion that follows is intended for general information only and is based on current regulations. State and local income tax consequences are not discussed, and may vary from locality to locality.

*NSOs.* An optionee who is granted an NSO will not realize taxable income at the time the stock option is granted. In general, an optionee will be subject to tax for the year of exercise on an amount of ordinary income equal to the excess of the fair market value of the shares on the date of exercise over the option exercise price, and, subject to section 162(m) of the Internal Revenue Code and the requirement of reasonableness, ION will receive a corresponding deduction. Income tax withholding requirements apply upon exercise. The optionee's basis in the shares so acquired equal the exercise price plus the amount of ordinary income upon which he is taxed. Upon subsequent disposition of the shares, the optionee will realize long- or short-term capital gain or loss, depending upon the length of time the shares are held after the option is exercised.

*ISOs.* An optionee is not taxed at the time an ISO is granted. The tax consequences upon exercise and later disposition depend upon whether the optionee was an employee of ION or a



subsidiary at all times from the date of grant until three months preceding exercise, or one year in the case of death or disability, and on whether the optionee holds the shares for more than one year after exercise and two years after the date of grant of the option. If the optionee satisfies both the employment rule and the holding rule, then, for regular federal income tax purposes, the optionee will not realize income upon exercise of the option and we will not be allowed an income tax deduction. The difference between the option exercise price and the amount realized upon sale or disposition of the shares by the optionee will constitute a long-term capital gain or a long-term capital loss, as the case may be. Neither the employment rule nor the holding rule will apply to the exercise of an option by the estate of an optionee, provided that the optionee satisfied the employment rule as of the date of such optionee's death. If the optionee meets the employment rule but fails to observe the holding rule, a sale of the shares would be considered to be a "disqualifying disposition," in which case the optionee generally recognizes as ordinary income, in the year of the disqualifying disposition, the excess of the fair market value of the shares at the date of exercise over the option exercise price. Any excess of the sales price over the fair market value at the date of exercise will be recognized by the optionee as long-term or short-term capital gain, depending on the length of time the stock was held after the option was exercised. If, however, the sales price is less than the fair market value at the date of exercise, then the ordinary income recognized by the optionee is generally limited to the excess of the sales price over the option exercise price. In both situations, our tax deduction will be limited to the amount of ordinary income recognized by the optionee. Different consequences apply for an optionee who is subject to the alternative minimum tax under the Internal Revenue Code.

*Restricted Stock and Restricted Stock Units.* Restricted stock is generally subject to ordinary income tax at the time the restrictions lapse, unless the recipient has previously elected to accelerate recognition income as of the date of grant. Restricted stock unit awards are generally subject to ordinary income tax at the time of the issuance of unrestricted shares. Unrestricted stock awards are generally subject to ordinary income tax at the time of grant. In each of the foregoing instances, we will generally be entitled to a corresponding federal income tax deduction at the same time the participant recognizes ordinary income.

*SARs.* Generally, the recipient of a stand-alone SAR will not recognize taxable income at the time the stand-alone SAR is granted. If an employee receives the appreciation inherent in the SARs in cash, the cash will be taxed as ordinary income to the employee at the time it is received. If an employee receives the appreciation inherent in the SARs in stock, the spread between the then-current market value and the base price will be taxed as ordinary income to the employee at the time it is received. In general, there will be no federal income tax deduction allowed to us upon the grant or termination of SARs. However, upon the settlement of a SAR, we will be entitled to a deduction equal to the amount of ordinary income the recipient is required to recognize as a result of the settlement.

*Performance Shares and Performance Units.* A participant is not taxed upon the grant of performance shares or performance units. Upon receipt of the shares or cash underlying the award, the participant will be taxed at ordinary income tax rates on the amount of cash received or the current fair market value of stock received, and we will be entitled to a corresponding tax deduction. The participant's basis in any shares acquired pursuant to the settlement of performance shares or performance units will be equal to the amount of ordinary income on which he was taxed and, upon subsequent disposition, any gain or loss will be capital gain or loss.

*Withholding.* We have the right to reduce the number of shares of common stock deliverable pursuant to the 2013 LTIP by an amount that would have a fair market value equal to the amount of all federal, state or local taxes to be withheld, based on the tax rates then in effect or the tax rates that we reasonably believe will be in effect for the applicable tax year, or to deduct the amount of such taxes from any cash payment to be made to the participant, pursuant to the 2013 LTIP or otherwise.

*The foregoing is only a summary of the effects of U.S. federal income taxation upon plan participants and the company with respect to the grant and exercise of awards under the 2013 Plan based on the U.S. federal income tax laws in effect as of the date of this proxy statement. It does not intend to be exhaustive and does not discuss the tax consequences arising in the context of the employee's death or the income tax laws of any municipality, state or foreign country in which the employee's income or gain may be taxable or the gift, estate, excise (including application of Section 409A of the Internal Revenue Code), or any tax law other than U.S. federal income tax law. Because individual circumstances may vary, we advise all participants to consult their own tax advisors concerning the tax implications of awards granted under the 2013 Plan.*

*New Plan Benefits.* It is not possible to predict the individuals who will receive future awards under the 2013 LTIP or the number of shares of common stock covered by any future award because such awards are wholly within the discretion of the Compensation Committee. However, please refer to the description of grants made to our named executive officers in the last fiscal year described in the "2012 Grants of Plan-Based Awards" table above. Grants made to our non-employee directors in the last fiscal year are described under "Director Compensation" above.

*Termination or Amendment of the 2013 LTIP.* The Board may amend, alter or discontinue the 2013 LTIP at any time. The Board or the Compensation Committee may amend the terms of any award previously granted; however, no amendment or discontinuance may impair the existing rights of any participant without the participant's consent. The Board may not amend the 2013 LTIP without stockholder approval if the amendment would (i) materially increase the benefits received by participants, (ii) materially increase the maximum number of shares that may be issued under the plan, (iii) materially modify the plan's eligibility requirements or (iv) require stockholder approval as a matter of law or under rules of the NYSE.

The 2013 LTIP also provides that stock options granted under the plan will not be (i) repriced by lowering the exercise price after grant or (ii) replaced or regranted through cancellation. In addition, we will seek the approval of our stockholders for any amendment if approval is necessary to comply with the Internal Revenue Code, federal or state securities laws or any other applicable rules or regulations. Unless sooner terminated, the 2013 LTIP will expire on May 21, 2023, if approved by the stockholders, and no awards may be granted under the 2013 LTIP after that date.

#### **Principal Differences between the 2004 LTIP and the 2013 LTIP**

The 2013 LTIP generally contains terms similar to our 2004 LTIP; however, we changed certain terms in the 2013 LTIP to reflect evolving good corporate governance practice. The below table summarizes the principal differences in terms between the two plans:

Addition of Performance Units . . . . .	The 2004 LTIP did not specifically provide for the issuance of performance units. The 2013 LTIP describes the terms and conditions that will be applicable to performance unit awards under the plan.
Change to definition of Retirement . .	The 2004 LTIP defined retirement as a voluntary termination of employment after reaching the age of 65 or such other age determined by the Compensation Committee. The 2013 LTIP adds the additional requirement of at least five continuous years of service with the company or its subsidiaries.

Addition of Non-Employee Director Awards . . . . .	In the past, awards of equity to our non-employee directors had been approved and directed by the Governance Committee of the Board, but had not been expressly provided for in or governed by the 2004 LTIP. The 2013 LTIP contains provisions specifically providing for non-employee director awards.
Addition of limit on number of full-value awards . . . . .	Although in practice we had historically limited our number of full-value awards, such as restricted stock and restricted stock units, the 2004 LTIP did not provide a definite limit. The 2013 LTIP requires that we limit our number of full-value awards to 1,300,000 (out of the 3,730,000 total shares available under the plan).
Reduction in exercise period for vested stock options held by former employees . . . . .	Our 2004 LTIP provided that if an employee’s employment is terminated other than due to his death, disability, retirement or for cause, any non-vested portion of stock options or other applicable awards will terminate and no further vesting will occur and the exercisable options will remain exercisable until the earlier of the expiration date set forth in the incentive agreement or 180 days after the date of termination of employment. The 2013 LTIP reduces the survival period for exercise of options from 180 days to three months.
Deletion of Tandem SARs awards . . . . .	Our 2004 LTIP provided the authority to grant awards of Tandem SARs to participants. We have not granted such awards in the past and have no intention of granting such awards in the future, so the 2013 LTIP does not include authority for awarding Tandem SARs.

## Stockholder Approval

The proposal to approve the 2013 LTIP requires a majority of the votes cast on the proposal, provided that the total votes cast on the proposal represents over 50% of the total number of outstanding shares of our common stock.

**The Board of Directors recommends that stockholders vote “FOR” the proposal to approve the 2013 LTIP.**

### ITEM 3 — ADVISORY (NON-BINDING) VOTE TO APPROVE EXECUTIVE COMPENSATION

As required by Section 14A of the Exchange Act, we are asking our stockholders to approve, on an advisory basis, the compensation of our named executive officers as we have described it in the “Executive Compensation” section of this proxy statement. This advisory vote is sometimes referred to as “Say on Pay.” While this vote is not binding on our company, management and the Compensation Committee will review the voting results for purposes of obtaining information regarding investor sentiment about our executive compensation philosophy, policies and practices. If there are a significant number of negative votes, we will seek to understand the concerns that influenced the negative votes, and consider them in making decisions about our executive compensation programs in the future. At our 2012 Annual Meeting, our stockholders approved our non-binding advisory vote to approve the compensation of our named executive officers, with more than 96% of the votes cast on the proposal voting in favor of its approval.

We believe that the information we have provided within the Executive Compensation section of this proxy statement demonstrates that our executive compensation program is designed appropriately and is working to ensure management’s interests are aligned with our stockholders’ interests to support long-term value creation. As described above in detail under “Compensation Discussion and Analysis,” our compensation program reflects a balance of short-term incentives (including performance-based cash bonus awards), long-term incentives (including equity awards that vest over up to four years), and protective measures, such as clawback and anti-hedging policies and stock ownership guidelines, that are designed to support our long-term business strategies and drive creation of stockholder value. We believe that our program is (i) aligned with the competitive market for talent, (ii) sensitive to our financial performance and (iii) oriented to long-term incentives, in order to maintain and improve our long-term profitability. We believe our program delivers reasonable pay that is strongly linked to our performance over time relative to peer companies and rewards sustained performance that is aligned with long-term stockholder interests. Our executive compensation program is also designed to attract and to retain highly-talented executive officers who are critical to the successful implementation of our company’s strategic business plan.

We routinely evaluate the individual elements of our compensation program in light of market conditions and governance requirements and make changes as appropriate for our business. For example, in 2009 we reduced base salaries for most company employees, with the largest percentage reductions borne by our executives, including our named executive officers. In addition, our employment contract with our Chief Executive Officer does not contain tax gross-ups or single trigger change of control provisions. As described above under “*Item 2 — Vote to Approve the 2013 Long-Term Incentive Plan,*” we are continuously seeking to improve our executive compensation programs and align our programs with stockholder interests. We believe that our executive compensation program continues to drive and promote superior financial performance for our company and our stockholders over the long term through a variety of business conditions.

We have regularly sought approval from our stockholders regarding portions of our compensation program that we have used to motivate, retain and reward our executives. Since 2000, our stockholders have voted on and approved our equity compensation plans (and amendments to those plans) ten times, in addition to approving our overall executive compensation program over the last three years.

Those incentive plans make up a significant portion of the overall compensation that we provide to our executives. Over the years, we have made numerous changes to our executive compensation program in response to stockholder input. Because the vote is advisory, however, it will not be binding upon our Board of Directors or the Compensation Committee, and neither our Board nor the Compensation Committee will be required to take any action as a result of the outcome of the vote on this proposal. The Compensation Committee will carefully evaluate the outcome of the vote when considering future executive compensation arrangements. After our Annual Meeting in May 2013, our next say-on-pay vote will occur at our next Annual Meeting scheduled to be held in May 2014.

Accordingly, the Board of Directors strongly endorses the Company's executive compensation program and recommends that stockholders vote in favor of the following advisory resolution:

RESOLVED, that the stockholders approve the compensation paid to the named executive officers of the Company, pursuant to the compensation disclosure rules of the Securities and Exchange Commission, including the compensation discussion and analysis, the compensation tables and any related material disclosed in the Company's Proxy Statement for the 2013 Annual Meeting of Stockholders.

We encourage our stockholders to closely review the Compensation Discussion and Analysis, the accompanying compensation tables and the related narrative disclosure before voting on this proposal. The Compensation Discussion and Analysis describes and explains our executive compensation policies and practices and the process that was used by the Compensation Committee of our Board of Directors to reach its decisions on the compensation of our named executive officers for 2012. It also contains a discussion and analysis of each of the primary components of our executive compensation program — base salary, annual cash incentive awards and long-term incentive awards — and the various post-employment arrangements that we have entered into with certain of our named executive officers.

**The Board of Directors recommends that stockholders vote "FOR" the advisory (non-binding) vote to approve the compensation of our named executive officers, as described in this proxy statement.**

#### **ITEM 4 — RATIFICATION OF APPOINTMENT OF INDEPENDENT AUDITORS**

We have appointed Ernst & Young LLP as our independent registered public accounting firm (independent auditors) for the fiscal year ending December 31, 2013. Services provided by Ernst & Young LLP to our company in 2012 included the audit of our consolidated financial statements, review of our quarterly financial statements, statutory audits of our foreign subsidiaries, internal control audit services, review of our registration statements filed under the Securities Act of 1933, as amended (the "Securities Act"), during 2012 and consultations on various tax, accounting and due diligence matters.

**The Board of Directors recommends that stockholders vote "FOR" ratification of the appointment of Ernst & Young LLP as our independent auditors for 2013.**

In the event stockholders do not ratify the appointment, the appointment will be reconsidered by the Audit Committee. Regardless of the outcome of the vote, however, the Audit Committee at all times has the authority within its discretion to recommend and approve any appointment, retention or dismissal of our independent auditors.

## REPORT OF THE AUDIT COMMITTEE

*The following Report of the Audit Committee does not constitute soliciting material and shall not be deemed filed or incorporated by reference into any other filings under the Securities Act or the Exchange Act, except to the extent ION specifically incorporates this Report by reference therein.*

ION's management is responsible for ION's internal controls, financial reporting process, compliance with laws, regulations and ethical business standards and the preparation of consolidated financial statements in accordance with accounting principles generally accepted in the United States. ION's independent registered public accounting firm is responsible for performing an independent audit of ION's financial statements in accordance with generally accepted auditing standards and the effectiveness of ION's internal control over financial reporting, and issuing an opinion thereon. The Board of Directors of ION appointed the undersigned directors as members of the Audit Committee and adopted a written charter setting forth the procedures and responsibilities of the Audit Committee. Each year the Audit Committee reviews its Charter and reports to the Board on its adequacy in light of applicable rules of the NYSE. In addition, each year ION furnishes a written affirmation to the NYSE relating to Audit Committee membership, the independence and financial management expertise of the Audit Committee and the adequacy of the Charter of the Audit Committee.

The Charter of the Audit Committee specifies that the primary purpose of the Audit Committee is to assist the Board in its oversight of: (1) the integrity of the financial statements of ION; (2) compliance by ION with legal and regulatory requirements; (3) the independence, qualifications and performance of ION's independent registered public accountants; and (4) the performance of ION's internal auditors and internal audit function. In carrying out these responsibilities during 2012, and early in 2013 in preparation for the filing with the SEC of ION's Annual Report on Form 10-K for the year ended December 31, 2012, the Audit Committee, among other things:

- reviewed and discussed the audited financial statements with management and ION's independent registered public accounting firm;
- reviewed the overall scope and plans for the audit and the results of the examinations of ION's independent registered public accounting firm;
- met with ION management periodically to consider the adequacy of ION's internal control over financial reporting and the quality of its financial reporting and discussed these matters with its independent registered public accounting firm and with appropriate ION financial personnel and internal auditors;
- discussed with ION's senior management, independent registered public accounting firm and internal auditors the process used for ION's Chief Executive Officer and Chief Financial Officer to make the certifications required by the SEC and the Sarbanes-Oxley Act of 2002 in connection with the Form 10-K and other periodic filings with the SEC;
- reviewed and discussed with ION's independent registered public accounting firm (1) their judgments as to the quality (and not just the acceptability) of ION's accounting policies, (2) the written disclosures and the letter from the independent registered public accounting firm required by applicable requirements of the Public Company Accounting Oversight Board regarding such firm's communication with the Audit Committee concerning independence, and the independence of the independent registered public accounting firm, and (3) the matters required to be discussed with the Audit Committee under auditing standards generally accepted in the United States, including Statement on Auditing Standards No. 114, "Communication with Audit Committees;"
- based on these reviews and discussions, as well as private discussions with ION's independent registered public accounting firm and internal auditors, recommended to the Board of Directors



the inclusion of the audited financial statements of ION and its subsidiaries in the 2012 Form 10-K;

- recommended the selection of Ernst & Young LLP as ION's independent registered public accounting firm for the fiscal year ending December 31, 2013; and
- determined that the non-audit services provided to ION by its independent registered public accounting firm (discussed below under "Principal Auditor Fees and Services") are compatible with maintaining the independence of the independent auditors.

The Audit Committee met five times during 2012. The committee schedules its meetings with a view to ensuring that it devotes appropriate attention to all of its tasks. The committee's meetings include, whenever appropriate, executive sessions with ION's independent registered public accountants and with ION's internal auditor, in each case without the presence of ION's management. The Audit Committee has also established procedures for (a) the receipt, retention and treatment of complaints received by ION regarding accounting, internal accounting controls or auditing matters and (b) the confidential, anonymous submission by ION's employees of concerns regarding questionable accounting or auditing matters. However, this oversight does not provide the Audit Committee with an independent basis to determine that management has maintained appropriate accounting and financial reporting principles or policies, or appropriate internal controls and procedures designed to assure compliance with accounting standards and applicable laws and regulations. Furthermore, the committee's consideration and discussions with management and the independent registered public accounting firm do not assure that ION's financial statements are presented in accordance with generally accepted accounting principles or that the audit of ION's financial statements has been carried out in accordance with generally accepted auditing standards.

S. James Nelson, Jr., Chairman  
Michael C. Jennings  
James M. Lapeyre, Jr.

## PRINCIPAL AUDITOR FEES AND SERVICES

In connection with the audit of the 2012 financial statements, we entered into an engagement agreement with Ernst & Young LLP that sets forth the terms by which Ernst & Young LLP would perform audit services for our company. The following two tables show the fees billed to us or accrued by us for the audit and other services provided by Ernst & Young LLP, for 2012 and 2011:

	2012	2011
Audit Fees(a) . . . . .	\$1,744,000	\$1,858,000
Audit-Related Fees(b) . . . . .	252,000	2,000
Tax Fees . . . . .	—	—
All Other Fees . . . . .	—	—
Total . . . . .	\$1,996,000	\$1,860,000

- 
- (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 for 2012 primarily relate to due diligence services. Also included for 2012 and 2011 are licensing fees related to accounting research software.

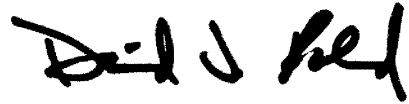
Our Audit Committee Charter provides that all audit services and non-audit services must be approved by the committee or a member of the committee. The Audit Committee has delegated to the Chairman of the committee the authority to pre-approve audit, audit-related and non-audit services not prohibited by law to be performed by our 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.

**Other Matters**

A representative of Ernst & Young LLP will be available at the annual meeting, will be afforded an opportunity to make a statement if he/she desires to do so and will be available to respond to appropriate questions.

This proxy statement has been approved by the Board of Directors and is being mailed and delivered to stockholders by its authority.



David L. Roland  
*Senior Vice President, General Counsel  
and Corporate Secretary*

Houston, Texas  
April 16, 2013

**The 2012 Annual Report to Stockholders includes our financial statements for the fiscal year ended December 31, 2012. We have mailed the 2012 Annual Report to Stockholders with this proxy statement to all of our stockholders of record. The 2012 Annual Report to Stockholders does not form any part of the material for the solicitation of proxies.**

## 2013 LONG-TERM INCENTIVE PLAN

### SECTION 1

#### GENERAL PROVISIONS RELATING TO PLAN GOVERNANCE, COVERAGE AND BENEFITS

##### 1.1 *Purpose*

The purpose of the Plan is to foster and promote the long-term financial success of ION Geophysical Corporation, a Delaware corporation (including any successors-in-interest, the “Company”) and its Subsidiaries and to increase stockholder value by: (a) encouraging the commitment of Directors and selected key Employees and Consultants, (b) motivating superior performance of Directors and key Employees and Consultants by means of long-term performance related incentives, (c) encouraging and providing Directors and selected key Employees and Consultants with a program for obtaining ownership interests in the Company that link and align their personal interests to those of the Company’s stockholders, (d) attracting and retaining Directors and selected key Employees and Consultants by providing competitive incentive compensation opportunities, and (e) enabling Directors and selected key Employees and Consultants to share in the long-term growth and success of the Company.

The Plan provides for payment of various forms of incentive compensation. Except as provided in Section 8.13, it is not intended to be a plan that is subject to the Employee Retirement Income Security Act of 1974, as amended (“ERISA”), and, as such, the Plan will be interpreted, construed and administered consistent with its status as a plan that is not subject to ERISA.

This Plan will become effective as of May 22, 2013 (the “Effective Date”). The Plan will commence on the Effective Date, and will remain in effect, subject to the right of the Board to amend or terminate the Plan at any time pursuant to Section 8.6, until all Shares subject to the Plan have been purchased or acquired according to its provisions. However, in no event may any Incentive Award be granted under the Plan after ten (10) years from the Effective Date.

##### 1.2 *Definitions*

The following terms shall have the meanings set forth below:

(a) *Appreciation.* The difference between the Fair Market Value of a share of Common Stock on the date of exercise of a SAR and the option exercise price per share of the SAR.

(b) *Authorized Officer.* The Chairman of the Board, the CEO, any Senior Vice President or Vice President or any other senior officer of the Company to whom any of them delegate the authority to execute any Incentive Agreement for and on behalf of the Company. No officer or director shall be an Authorized Officer with respect to any Incentive Agreement for himself.

(c) *Board.* The Board of Directors of the Company.

(d) *Cause.* Except as otherwise provided by the Committee or as otherwise provided in a Grantee’s employment agreement, when used in connection with the termination of a Grantee’s Employment or service, shall mean the termination of the Grantee’s Employment or Grantee’s services as a Director or Consultant by the Company or any Subsidiary by reason of (i) the conviction of the Grantee by a court of competent jurisdiction as to which no further appeal can be taken of a crime involving moral turpitude or a felony; (ii) the proven commission by the Grantee of a material act of fraud upon the Company or any Subsidiary, or any customer or supplier thereof; (iii) the willful and proven misappropriation of any funds or property of the Company or any Subsidiary, or any customer or supplier thereof; (iv) the willful, continued and unreasonable failure by the Grantee to perform the material duties assigned to him which is not

cured to the reasonable satisfaction of the Company within thirty (30) days after written or electronic notice of such failure is provided to Grantee by the Board or by a designated officer of the Company or a Subsidiary; (v) the knowing engagement by the Grantee in any direct and material conflict of interest with the Company or any Subsidiary without compliance with the Company's or Subsidiary's conflict of interest policy, if any, then in effect; or (vi) the knowing engagement by the Grantee, without the written approval of the Board, in any material activity which competes with the business of the Company or any Subsidiary or which would result in a material injury to the business, reputation or goodwill of the Company or any Subsidiary; or (vii) the material breach by a Consultant of such Grantee's contract with the Company.

(e) CEO. The Chief Executive Officer of the Company.

(f) Change in Control. Any of the events described in and subject to Section 7.7.

(g) Code. The Internal Revenue Code of 1986, as amended, and the regulations and other authority promulgated thereunder by the appropriate governmental authority. References herein to any provision of the Code shall refer to any successor provision thereto.

(h) Committee. A committee appointed by the Board consisting of at least two directors, who fulfill the "outside directors" requirements of Section 162(m) of the Code, to administer the Plan. The Committee may be the Compensation Committee of the Board, or any subcommittee of the Compensation Committee. The Board shall have the power to fill vacancies on the Committee arising by resignation, death, removal or otherwise. The Board, in its sole discretion, may bifurcate the powers and duties of the Committee among one or more separate committees, or retain all powers and duties of the Committee in a single Committee. The members of the Committee shall serve at the discretion of the Board.

(i) Common Stock. The common stock of the Company, \$.01 par value per share, and any class of common stock into which such common shares may hereafter be converted, reclassified, re-capitalized, or exchanged.

(j) Consultant. An independent agent, consultant, attorney, an individual who has agreed to become an Employee within the next six months, or any other individual who is not a Director or employee of the Company (or any Parent or Subsidiary) and who, in the opinion of the Committee, is in a position to contribute to the growth or financial success of the Company (or any Parent or Subsidiary), (ii) is a natural person and (iii) provides bona fide services to the Company (or any Parent or Subsidiary), which services are not in connection with the offer or sale of securities in a capital raising transaction, and do not directly or indirectly promote or maintain a market for the Company's securities.

(k) Covered Employee. A named executive officer who is one of the group of covered employees, as defined in Section 162(m) of the Code and Treasury Regulation § 1.162-27(c) (or its successor), during any such period that the Company is a Publicly Held Corporation.

(l) Deferred Stock. Shares of Common Stock to be issued or transferred to a Grantee under an Other Stock-Based Award granted pursuant to Section 5 at the end of a specified deferral period, as set forth in the Incentive Agreement pertaining thereto.

(m) Director. Any individual who is a member of the Board.

(n) Disability. As determined by the Committee in its discretion exercised in good faith, a physical or mental condition of the Employee that would entitle him to disability income payments under the Company's long term disability insurance policy or plan for employees, as then effective, if any; or in the event that the Grantee is not covered, for whatever reason, under the Company's long-term disability insurance policy or plan, "Disability" means a permanent and total disability as defined in Section 22(e)(3) of the Code. A determination of Disability may be made by a physician

selected or approved by the Committee and, in this respect, the Grantee shall submit to any reasonable examination by such physician upon request.

(o) *Employee.* Any employee of the Company (or any Parent or Subsidiary) within the meaning of Section 3401(c) of the Code who, in the opinion of the Committee, is in a position to contribute to the growth, development or financial success of the Company (or any Parent or Subsidiary), including, without limitation, officers who are members of the Board.

(p) *Employment.* Employment by the Company (or any Parent or Subsidiary), or by any corporation issuing or assuming an Incentive Award in any transaction described in Section 424(a) of the Code, or by a parent corporation or a subsidiary corporation of such corporation issuing or assuming such Incentive Award, as the parent-subsidiary relationship shall be determined at the time of the corporate action described in Section 424(a) of the Code. In this regard, neither the transfer of a Grantee from Employment by the Company to Employment by any Parent or Subsidiary, nor the transfer of a Grantee from Employment by any Parent or Subsidiary to Employment by the Company, shall be deemed to be a termination of Employment of the Grantee. Moreover, the Employment of a Grantee shall not be deemed to have been terminated because of an approved leave of absence from active Employment on account of temporary illness, authorized vacation or granted for reasons of professional advancement, education, health, government service or military leave, or during any period required to be treated as a leave of absence by virtue of any applicable statute, Company personnel policy or agreement. Whether an authorized leave of absence shall constitute termination of Employment hereunder shall be determined by the Committee in its discretion. Unless otherwise provided in the Incentive Agreement, the term “Employment” for purposes of the Plan is also defined to include compensatory or advisory services performed by a Consultant for the Company (or any Parent or Subsidiary).

(q) *Exchange Act.* The Securities Exchange Act of 1934, as amended.

(r) *Fair Market Value.* While the Company is a Publicly Held Corporation, the Fair Market Value of one share of Common Stock on the date in question is deemed to be the closing sales price on the immediately preceding business day, or the nearest preceding business day on which there was a closing sales price, of a share of Common Stock as reported on the New York Stock Exchange or other principal securities exchange on which Shares are then listed or admitted to trading, or as quoted on any national interdealer quotation system, if such shares are not so listed. In the case of stock option exercise via the same-day sale or sell-to-cover, Fair Market Value for shares sold shall be deemed to be the sale price.

(s) *Full-Value Award.* An award of Restricted Stock, Restricted Stock Units, unrestricted Common Stock, Performance Shares, Performance Units or other Incentive Award that entitles the Grantee to receive the entire value of each Share upon vesting at no cost to the Grantee. In contrast, Stock Options, Stock Appreciation Rights and similar appreciation awards are not Full-Value Awards.

(t) *Grantee.* Any Employee, Director or Consultant who is granted an Incentive Award under the Plan.

(u) *Immediate Family.* With respect to a Grantee, the Grantee’s child, stepchild, grandchild, parent, stepparent, grandparent, spouse, former spouse, sibling, mother-in-law, father-in-law, son-in-law, daughter-in-law, brother-in-law, or sister-in-law, including adoptive relationships.

(v) *Incentive Agreement.* The written or electronic agreement entered into between the Company and the Grantee setting forth the terms and conditions pursuant to which an Incentive Award is granted under the Plan, as such agreement is further defined in Section 7.1(a).



(w) Incentive Award. A grant of an award under the Plan to a Grantee, including any Nonstatutory Stock Option, Incentive Stock Option, Stock Appreciation Right, Performance Share, Performance Unit, Restricted Stock, Restricted Stock Unit or Other Stock-Based Award, as well as any Supplemental Payment.

(x) Incentive Stock Option or ISO. A Stock Option granted by the Committee to an Employee under Section 2 that is designated by the Committee as an Incentive Stock Option and intended to qualify as an Incentive Stock Option under Section 422 of the Code.

(y) Insider. While the Company is a Publicly Held Corporation, an individual who is, on the relevant date, an officer, director or 10% beneficial owner of any class of the Company's equity securities that is registered pursuant to Section 12 of the Exchange Act, all as defined under Section 16 of the Exchange Act.

(z) Non-Employee Director. A Director who is not an Employee.

(aa) Non-Employee Director Award. Any Restricted Stock, Restricted Stock Unit, or Other Stock-Based Award granted, whether singly or in combination, to a Grantee who is a Non-Employee Director pursuant to such applicable terms, conditions, and limitations as the Board or Committee may establish in accordance with this Plan.

(bb) Nonstatutory Stock Option. A Stock Option granted by the Committee to a Grantee under Section 2 that is not designated by the Committee as an Incentive Stock Option or to which Section 421 of the Code does not apply.

(cc) Option Price. The exercise price at which a Share may be purchased by the Grantee of a Stock Option.

(dd) Other Stock-Based Award. An award granted by the Committee to a Grantee under Section 5 that is not a Nonstatutory Stock Option, SAR, Performance Share, Performance Unit, Restricted Stock or Restricted Stock Unit and is valued in whole or in part by reference to, or is otherwise based upon, Common Stock.

(ee) Parent. Any corporation (whether now or hereafter existing) that constitutes a "Parent" of the Company, as defined in Section 424(e) of the Code.

(ff) Performance-Based Exception. The performance-based exception from the tax deductibility limitations of Section 162(m) of the Code, as prescribed in Section 162(m) of the Code and Treasury Regulation § 1.162-27(e) (or its successor), which is applicable during such period that the Company is a Publicly Held Corporation.

(gg) Performance Period. A period of time determined by the Committee over which performance is measured for the purpose of determining a Grantee's right to and the payment value of any Performance Share, Performance Unit or Other Stock-Based Award.

(hh) Performance Share. An Incentive Award granted by the Committee to a Grantee under Section 3 representing a contingent right to receive Shares of Common Stock at the end of a Performance Period.

(ii) Performance Unit. An Incentive Award granted by the Committee to a Grantee under Section 3 representing a contingent right to receive Shares of Common Stock at the end of a Performance Period, except no Shares are actually awarded to the Grantee on the date of grant.

(jj) Period of Restriction. A period when Restricted Stock or Restricted Stock Units are subject to a substantial risk of forfeiture (based on the passage of time, the achievement of performance goals, or upon the occurrence of other events as determined by the Committee, in its discretion), as provided in Section 4.

(kk) Plan. 2013 Long-Term Incentive Plan, as set forth herein and as it may be amended from time to time.

(ll) Publicly Held Corporation. A corporation issuing any class of common equity securities required to be registered under Section 12 of the Exchange Act.

(mm) Restricted Stock. An Award granted to a Grantee pursuant to Section 4.

(nn) Restricted Stock Unit. An Award granted to a Grantee pursuant to Section 4, except no Shares are actually awarded to the Grantee on the date of grant.

(oo) Retirement. The voluntary termination of Employment from the Company or any Parent or Subsidiary constituting retirement on any date after the Employee has had at least five years of continuous service and has attained the normal retirement age of 65 years, or such other age as may be designated from time to time by the Committee.

(pp) Share. A share of Common Stock of the Company.

(qq) Share Pool. The number of Shares authorized for issuance under Section 1.4 as adjusted for awards and payouts under Section 1.5 and as adjusted for changes in corporate capitalization under Section 7.5.

(rr) Spread. The difference between the exercise price per Share specified in any SAR grant and the Fair Market Value of a Share on the date of exercise of the SAR.

(ss) Stock Appreciation Right or SAR. A Stock Appreciation Right described in Section 2.4.

(tt) Stock Option or Option. Pursuant to Section 2 or Section 6, (i) an Incentive Stock Option granted to an Employee, or (ii) a Nonstatutory Stock Option granted to an Employee, Director or Consultant, whereunder such option the Grantee has the right to purchase Shares of Common Stock. In accordance with Section 422 of the Code, only an Employee of the Company, Parent or Subsidiary may be granted an Incentive Stock Option.

(uu) Subsidiary. Any corporation (whether now or hereafter existing) which constitutes a “subsidiary” of the Company, as defined in Section 424(f) of the Code.

(vv) Supplemental Payment. Any amount, as described in Sections 2.5, 3.3 and/or 4.3, that is dedicated to payment of income taxes that are payable by the Grantee resulting from an Incentive Award.

### 1.3 Plan Administration

(a) Authority of the Committee. Except as may be limited by law and subject to the provisions herein, the Committee shall have full power to (i) select Grantees who shall participate in the Plan; (ii) determine the sizes, duration and types of Incentive Awards; (iii) determine the terms and conditions of Incentive Awards and Incentive Agreements; (iv) determine whether any Shares subject to Incentive Awards will be subject to any restrictions on transfer; (v) construe and interpret the Plan and any Incentive Agreement or other agreement entered into under the Plan; (vi) authorize one or more executive officers of the Company to select Employees to participate in the Plan and to determine the type and size of each Incentive Award to be granted to such employees for awards of 5,000 Shares or less; and (vii) establish, amend, or waive rules for the Plan’s administration. Further, the Committee shall make all other determinations that may be necessary or advisable for the administration of the Plan. Notwithstanding the preceding, without the prior approval of the Company’s shareholders, any Stock Option previously granted under the Plan shall not be repriced, replaced, or regranted through cancellation, or by lowering the exercise price of a previously granted option, except as provided in Section 7.5.

(b) *Meetings.* The Committee shall designate a chairman from among its members who shall preside at all of its meetings, and shall designate a secretary, without regard to whether that person is a member of the Committee, who shall keep the minutes of the proceedings and all records, documents, and data pertaining to its administration of the Plan. Meetings shall be held at such times and places as shall be determined by the Committee, and the Committee may hold telephonic meetings.

(c) *Decisions Binding.* All determinations and decisions made by the Committee shall be made in its discretion pursuant to the provisions of the Plan, and shall be final, conclusive and binding on all persons including the Company, Employees, Directors, Grantees, and their estates and beneficiaries. The Committee's decisions and determinations with respect to any Incentive Award need not be uniform and may be made selectively among Incentive Awards and Grantees, whether or not such Incentive Awards are similar or such Grantees are similarly situated.

(d) *Modification of Outstanding Incentive Awards.* Subject to the stockholder approval requirements of Section 8.6, if applicable, the Committee may, in its discretion, provide for the extension of the exercisability of an Incentive Award, accelerate the vesting or exercisability of an Incentive Award, eliminate or make less restrictive any restrictions contained in an Incentive Award, waive any restriction or other provisions of an Incentive Award, or otherwise amend or modify an Incentive Award in any manner that is either (i) not adverse to the Grantee to whom such Incentive Award was granted or (ii) consented to by such Grantee; *provided, however*, no Stock Option issued under the Plan will be repriced, replaced or regranted through cancellation, or by lowering the Option Price of a previously granted Stock Option and the period during which a Stock Option may be exercised shall not be extended such that the compensation payable under the Stock Option would be subject to the excise tax applicable under Section 409A of the Code. With respect to an Incentive Award that is an incentive stock option (as described in Section 422 of the Code), no adjustment to such option shall be made to the extent constituting a "modification" within the meaning of Section 424(h)(3) of the Code unless otherwise agreed to by the Grantee in writing. Except as provided in this Plan in connection with a Change of Control or a Corporate Event, the language of this Section 1.3(d) prohibits all forms of repricing, including cash buyouts and Incentive Award exchanges, without stockholder approval.

(e) *Delegation of Authority.* The Committee may delegate to designated officers or other employees of the Company any of its duties and authority under the Plan pursuant to such conditions or limitations as the Committee may establish from time to time; *provided, however*, except as provided in Section 1.3(a), the Committee may not delegate to any person the authority to (i) grant Incentive Awards, or (ii) take any action that would contravene the requirements of Rule 16b-3 under the Exchange Act or the Performance-Based Exception under Section 162(m) of the Code.

(f) *Expenses of Committee.* The Committee may employ legal counsel, including, without limitation, independent legal counsel and counsel regularly employed by the Company, and other agents, as the Committee may deem appropriate for the administration of the Plan. The Committee may rely upon any opinion or computation received from any such counsel or agent. All expenses incurred by the Committee in interpreting and administering the Plan, including, without limitation, meeting expenses and professional fees, shall be paid by the Company.

(g) *Indemnification.* Each person who is or was a member of the Committee, or of the Board, shall be indemnified by the Company against and from any damage, loss, liability, cost and expense that may be imposed upon or reasonably incurred by him in connection with or resulting from any claim, action, suit, or proceeding to which he may be a party or in which he may be involved by reason of any action taken or failure to act under the Plan, except for any such act or omission constituting willful misconduct or gross negligence. Such person shall be indemnified by the Company for all amounts paid by him in settlement thereof, with the Company's approval, or paid by him in satisfaction of any judgment in any such action, suit, or proceeding against him, *provided* he shall give the Company an

opportunity, at its own expense, to handle and defend the same before he undertakes to handle and defend it on his own behalf. The foregoing right of indemnification shall not be exclusive of any other rights of indemnification to which such persons may be entitled under the Company's Articles or Certificate of Incorporation or Bylaws, by contract, as a matter of law, or otherwise, or any power that the Company may have to indemnify them or hold them harmless.

(h) *Awards in Foreign Countries.* The Board shall have the authority to adopt modifications, procedures, sub-plans, and other similar plan documents as may be necessary or desirable to comply with provisions of the laws of foreign countries in which the Company or its subsidiaries may operate to assure the viability of the benefits of Incentive Awards made to individuals employed or providing services in such countries and to meet the objectives of the Plan.

#### 1.4 *Shares of Common Stock Available for Incentive Awards*

Subject to this Section 1.4 and subject to adjustment under Section 7.5, there shall be available for Incentive Awards that are granted wholly or partly in Common Stock (including rights or Options that may be exercised or settled in Common Stock) 3,730,000 Shares of Common Stock.

The number of Shares of Common Stock that are the subject of Incentive Awards under this Plan, that are forfeited or terminated, expire unexercised, are settled in cash in lieu of Common Stock or in a manner such that all or some of the Shares covered by an Incentive Award are not issued to a Grantee or are exchanged for Incentive Awards that do not involve Common Stock, shall again immediately become available for Incentive Awards hereunder; *provided, however*, the aggregate number of Shares which may be issued upon exercise of ISOs shall in no event exceed 3,730,000 Shares (subject to adjustment pursuant to Section 7.5).

Subject to adjustment under Section 7.5 and the limit set forth above, the following additional limits are imposed under the Plan:

(a) At no time shall the number of Shares issued pursuant to Full-Value Awards exceed 1,300,000 Shares.

(b) The maximum number of Shares that may be covered by Incentive Awards granted to any one individual pursuant to Section 2 (relating to Options and SARs) shall be 3,730,000 Shares during any one calendar-year period. To the extent required by Section 162(m) of the Code, Shares subject to the foregoing limit with respect to which the related Incentive Award described in Section 2 is forfeited, expires, or is canceled shall not again be available for grant under this limit.

(c) For Performance Shares and/or Performance Units that are intended to qualify for the Performance-Based Exception, no more than 3,730,000 Shares may be delivered to any one Grantee for Performance Periods beginning in any one calendar year, regardless of whether the applicable Performance Period during which the Performance Shares and/or Performance Units are earned ends in the same year in which it begins or in a later calendar year; provided that Performance Shares and/or Performance Units described in this paragraph (c) that are intended to qualify for the Performance-Based Exception shall be subject to the following: (i) If the Performance Shares and/or Performance Units are denominated in Shares but are settled in an equivalent amount of cash, the foregoing limit shall be applied as though the Incentive Award was settled in Shares; and (ii) If delivery of Shares or cash is deferred until after Performance Shares and/or Performance Units have been earned, any adjustment in the amount delivered to reflect actual or deemed investment experience after the date the shares are earned shall be disregarded.

(d) For Supplemental Payments that are intended to qualify for the Performance-Based Exception, no more than \$2,000,000 may be paid to any one Grantee for Performance Periods beginning in any one calendar year, regardless of whether the applicable Performance Period during which the Supplemental Payment is earned ends in the same year in which it begins or in a

later calendar year; provided that Supplemental Payments described in this paragraph (d) that are intended to qualify for the Performance-Based Exception shall be subject to the following: (i) If a Supplemental Payment is denominated in cash but an equivalent amount of Shares is delivered in lieu of delivery of cash, the foregoing limit shall be applied as though the Supplemental Payment was settled in cash; and (ii) if delivery of Shares or cash is deferred until after the Supplemental Payment has been earned, any adjustment in the amount delivered to reflect actual or deemed investment experience after the date the Supplemental Payment is earned shall be disregarded.

#### 1.5 *Share Pool Adjustments for Awards and Payouts*

The following Incentive Awards and payouts shall reduce, on a one-Share-for-one-Share basis, the number of Shares authorized for issuance under the Share Pool:

- (a) Stock Option;
- (b) SAR;
- (c) A payout of a Performance Share in Shares;
- (d) A payout of Performance Units in Shares;
- (e) Restricted Stock or a payout of Restricted Stock Units in Shares; and
- (f) A payout of an Other Stock-Based Award in Shares.

The following transactions shall restore, on a one Share for one Share basis, the number of Shares authorized for issuance under the Share Pool:

- (A) A payout of an SAR or Other Stock-Based Award in the form of cash;
- (B) A payout of Performance Units in the form of cash;
- (C) A payout of Restricted Stock Units in the form of cash;
- (D) A cancellation, termination, expiration, forfeiture, or lapse for any reason of any Shares subject to an Incentive Award; and
- (E) Payment of an Option Price with previously acquired Shares or by withholding Shares that otherwise would be acquired on exercise (i.e., the Share Pool shall be increased by the number of Shares turned in or withheld as payment of the Option Price plus any Shares withheld to pay withholding taxes).

#### 1.6 *Common Stock Available*

The Common Stock available for issuance or transfer under the Plan shall be made available from Shares now or hereafter (a) held in the treasury of the Company, (b) are authorized but unissued or (c) to be purchased or acquired by the Company. No fractional Shares shall be issued under the Plan; any payment for fractional Shares shall be made in cash.

#### 1.7 *Participation*

(a) *Eligibility.* Subject to Section 1.3(e), the Committee shall from time to time designate those key Employees, Directors or Consultants, if any, to be granted Incentive Awards under the Plan, the type and number of Incentive Awards granted, and any other terms or conditions relating to the Incentive Awards as it may deem appropriate to the extent consistent with the provisions of the Plan. A Grantee who has been granted an Incentive Award may, if otherwise eligible, be granted additional Incentive Awards at any time.



(b) *Incentive Stock Option Eligibility.* No Consultant or Non-Employee Director shall be eligible for the grant of any Incentive Stock Option. In addition, no Employee shall be eligible for the grant of any Incentive Stock Option who owns or would own immediately before the grant of such Incentive Stock Option, directly or indirectly, stock possessing more than 10% of the total combined voting power of all classes of stock of the Company, or any Parent or Subsidiary. This restriction does not apply if, at the time such Incentive Stock Option is granted, the Incentive Stock Option exercise price is at least 110% of the Fair Market Value on the date of grant and the Incentive Stock Option by its terms is not exercisable after the expiration of five (5) years from the date of grant. For the purpose of the immediately preceding sentence, the attribution rules of Section 424(d) of the Code shall apply for the purpose of determining an Employee's percentage ownership in the Company or any Parent or Subsidiary. This paragraph shall be construed consistent with the requirements of Section 422 of the Code.

### 1.8 *Types of Incentive Awards*

The types of Incentive Awards under the Plan are Stock Options, Stock Appreciation Rights and Supplemental Payments as described in Section 2, Performance Shares, Performance Units and Supplemental Payments as described in Section 3, Restricted Stock, Restricted Stock Units and Supplemental Payments as described in Section 4, and Other Stock-Based Awards and Supplemental Payments as described in Section 5, and any combination of the foregoing.

## SECTION 2

### STOCK OPTIONS AND STOCK APPRECIATION RIGHTS

#### 2.1 *Grant of Stock Options*

The Committee is authorized to grant (a) Nonstatutory Stock Options to Employees, Directors or Consultants and (b) Incentive Stock Options to Employees only, in accordance with the terms and conditions of the Plan, and with such additional terms and conditions, not inconsistent with the Plan, as the Committee shall determine in its discretion. Successive grants may be made to the same Grantee whether or not any Stock Option previously granted to such person remains unexercised.

#### 2.2 *Stock Option Terms*

(a) *Agreement.* Each grant of a Stock Option shall be evidenced by a written or electronic Incentive Agreement. Among its other provisions, each Incentive Agreement shall set forth, subject to Section 422 of the Code, the extent to which the Grantee shall have the right to exercise the Stock Option following termination of the Grantee's Employment. Such provisions shall be determined in the discretion of the Committee, shall be included in the Grantee's Incentive Agreement, and need not be uniform among all Stock Options issued pursuant to the Plan. In addition, Incentive Agreement shall state whether the Stock Option is intended to meet the requirements of Section 422 of the Code.

(b) *Number of Shares.* Each Stock Option shall specify the number of Shares of Common Stock to which it pertains.

(c) *Exercise Price.* The exercise price per Share of Common Stock under each Stock Option shall be determined by the Committee; *provided, however,* that in the case of a Stock Option, such exercise price shall not be less than 100% of the Fair Market Value per Share on the date the Stock Option is granted (110% in the case of an Incentive Stock Option for 10% or greater shareholders pursuant to Section 1.7(b)). Each Stock Option shall specify the method of exercise, which shall be consistent with the requirements of Section 2.3(a).

(d) *Term.* In the Incentive Agreement, the Committee shall fix the term of each Stock Option, which shall be not more than ten (10) years from the date of grant (five years for ISO grants to 10%



or greater shareholders pursuant to Section 1.7(b)). In the event no term is fixed, such term shall be ten (10) years from the date of grant.

(e) *Exercise.* The Committee may determine the time or times at which a Stock Option may be exercised in whole or in part. Each Stock Option may specify the required period of continuous Employment and/or the performance objectives to be achieved before the Stock Option or portion thereof will become exercisable. Each Stock Option, the exercise of which, or the timing of the exercise of which, is dependent, in whole or in part, on the achievement of designated performance objectives, may specify a minimum level of achievement in respect of the specified performance objectives below which no Stock Options will be exercisable and a method for determining the number of Stock Options that will be exercisable if performance is at or above such minimum but short of full achievement of the performance objectives. All such terms and conditions shall be as set forth in the Incentive Agreement. If not otherwise designated in the applicable Incentive Agreement or determined by the Committee, and subject to the provisions of the Plan regarding accelerated vesting and termination, each award of Stock Options granted under this Section 2 shall become vested as to 25% of the total number of Shares subject thereto on each of the following dates: (i) the first anniversary of the date of grant, (ii) the second anniversary of the date of grant, (iii) the third anniversary of the date of grant, and (iv) the fourth anniversary of the date of grant.

(f) *\$100,000 Annual Limit on Incentive Stock Options.* Notwithstanding any contrary provision in the Plan, to the extent that the aggregate Fair Market Value (determined as of the time the Incentive Stock Option is granted) of the Shares of Common Stock with respect to which Incentive Stock Options are exercisable for the first time by any Grantee during any single calendar year (under the Plan and any other stock option plans of the Company and its Subsidiaries or Parent) exceeds the sum of \$100,000, such Incentive Stock Option shall be treated as a Nonstatutory Stock Option to the extent in excess of the \$100,000 limit, and not an Incentive Stock Option, but all other terms and provisions of such Stock Option shall remain unchanged. This paragraph shall be applied by taking Incentive Stock Options into account in the order in which they were granted and shall be construed in accordance with Section 422(d) of the Code. In the absence of such regulations or other authority, or if such regulations or other authority require or permit a designation of the Options which shall cease to constitute Incentive Stock Options, then such Incentive Stock Options, only to the extent of such excess, shall automatically be deemed to be Nonstatutory Stock Options but all other terms and conditions of such Incentive Stock Options, and the corresponding Incentive Agreement, shall remain unchanged.

### 2.3 *Stock Option Exercises*

(a) *Method of Exercise and Payment.* Stock Options shall be exercised by the delivery of a signed written or company-approved electronic notice of exercise to the Company as of a date set by the Company in advance of the effective date of the proposed exercise. The notice shall set forth the number of Shares with respect to which the Option is to be exercised.

The Option Price upon exercise of any Stock Option shall, pursuant to the exercise methods allowed by the Incentive Agreement, be payable to the Company in full either: (i) in cash or its equivalent, or (ii) by tendering previously acquired Shares having an aggregate Fair Market Value at the time of exercise equal to the Option Price, or (iii) by withholding Shares which otherwise would be acquired on exercise having an aggregate Fair Market Value at the time of exercise equal to the total Option Price, or (iv) by any combination of (i), (ii), and (iii) above. In the event of the absence of any specifically allowed exercise methods in the Incentive Agreement, the participant may, subject to applicable law, use any of the methods listed in this Section 2.3(a). Any payment in Shares shall be effected by surrender of such Shares to the Company in good form for transfer and shall be valued at their Fair Market Value on the date when the Stock Option is exercised. The Company shall not withhold shares, and the Grantee shall not surrender, or attest to the ownership of, Shares in payment

of the Option Price if such action would cause the Company to recognize compensation expense (or additional compensation expense) with respect to the Stock Option for financial reporting purposes.

While the Company is a Publicly Held Corporation, the Committee may also allow the Option Price to be paid with such other consideration as shall constitute lawful consideration for the issuance of Shares (including, without limitation, effecting a “same-day sale” or “sell-to-cover” exercise with a broker or dealer), subject to applicable securities law restrictions and tax withholdings, or by any other means which the Committee determines to be consistent with the Plan’s purpose and applicable law.

As soon as practicable after receipt of a written or electronic notification of exercise and full payment, the Company shall deliver, or cause to be delivered, to or on behalf of the Grantee, in the name of the Grantee or other appropriate recipient, Share certificates for the number of Shares purchased under the Stock Option. Such delivery shall be effected for all purposes when the Company or a stock transfer agent of the Company shall have deposited such certificates in the appropriate electronic shares transfer system or in the United States mail, addressed to Grantee or other appropriate recipient.

Subject to Section 7.2 during the lifetime of a Grantee, each Option granted to him shall be exercisable only by the Grantee (or his legal guardian or personal representative in the event of his Disability) or by a broker or dealer acting on his behalf pursuant to a cashless exercise under the foregoing provisions of this Section 2.3(a).

(b) *Restrictions on Share Transferability.* The Committee may impose such restrictions on any Shares acquired pursuant to the exercise of a Stock Option as it may deem advisable, including, without limitation, restrictions under (i) any stockholders’ agreement, buy/sell agreement, right of first refusal, non-competition, and any other agreement between the Company and any of its securities holders or employees, (ii) any applicable federal securities laws, (iii) the requirements of any stock exchange or market upon which such Shares are then listed and/or quoted, or (iv) any blue sky or state securities law applicable to such Shares. Any certificate issued to evidence Shares issued upon the exercise of an Incentive Award may bear such legends and statements as the Committee shall deem advisable to assure compliance with federal and state laws and regulations.

Any Grantee or other person exercising an Incentive Award may be required by the Committee to give a written or electronic representation that the Incentive Award and the Shares subject to the Incentive Award will be acquired for investment and not with a view to public distribution; *provided, however,* that the Committee, in its sole discretion, may release any person receiving an Incentive Award from any such representations either prior to or subsequent to the exercise of the Incentive Award.

(c) *Notification of Disqualifying Disposition of Shares from Incentive Stock Options.* Notwithstanding any other provision of the Plan, a Grantee who disposes of Shares of Common Stock acquired upon the exercise of an Incentive Stock Option by a sale or exchange either (i) within two (2) years after the date of the grant of the Incentive Stock Option under which the Shares were acquired or (ii) within one (1) year after the transfer of such Shares to him pursuant to exercise, shall promptly notify the Company of such disposition, the amount realized and his adjusted basis in such Shares.

(d) *Proceeds of Option Exercise.* The proceeds received by the Company from the sale of Shares pursuant to Stock Options exercised under the Plan shall be used for general corporate purposes.

(e) *Information Required in Connection with Exercise of Incentive Stock Option.* The Company shall provide the Grantee with a written statement required by Section 6039 of the Code no later than January 31 of the year following the calendar year during which the Grantee exercises an Option that is intended to be an Incentive Stock Option.

#### 2.4 *Stock Appreciation Rights*

(a) *Grant.* The Committee may grant Stock Appreciation Rights (“SARs”).

(b) *General Provisions.* The terms and conditions of each SAR shall be evidenced by an Incentive Agreement. The exercise price per share of Common Stock shall be not less than 100% of the Fair Market Value of a Share of Common Stock on the date of grant of the SAR. The term of an SAR shall be determined by the Committee.

(c) *Exercise.* SARs shall be exercisable at such time and subject to such terms and conditions as the Committee shall specify in the Incentive Agreement for the SAR grant.

(d) *Settlement.* Upon exercise of an SAR, the holder shall receive, for each Share specified in the SAR grant, an amount equal to the Spread. The Spread shall be payable in cash, Common Stock, or a combination of both, as specified in the Incentive Agreement. The Spread shall be paid within thirty (30) calendar days of the exercise of the SAR. If the Spread is to be paid in Common Stock or cash only, the resulting shares or cash shall be determined by dividing (1) by (2), where (1) is the number of Shares as to which the SAR is exercised multiplied by the Spread in such Shares and (2) is the Fair Market Value of a Share on the exercise date. If a portion of the Spread is to be paid in Shares, the Share amount shall be determined by calculating the amount of cash payable pursuant to the preceding sentence then by dividing (1) as defined herein, minus the amount of cash payable, by (2) as defined herein.

#### 2.5 *Supplemental Payment on Exercise of Nonstatutory Stock Options or Stock Appreciation Rights*

The Committee, either at the time of grant or as of the time of exercise of any Nonstatutory Stock Option or Stock Appreciation Right, may provide in the Incentive Agreement for a Supplemental Payment by the Company to the Grantee with respect to the exercise of any Nonstatutory Stock Option or Stock Appreciation Right. The Supplemental Payment shall be in the amount specified by the Committee, which amount shall not exceed the amount necessary to pay the federal and state income tax payable with respect to both the exercise of the Nonstatutory Stock Option and/or Stock Appreciation Right and the receipt of the Supplemental Payment, assuming the holder is taxed at either the maximum effective income tax rate applicable thereto or at a lower tax rate as deemed appropriate by the Committee. The Committee shall have the discretion to grant Supplemental Payments that are payable solely in cash or Supplemental Payments that are payable in cash, Common Stock, or a combination of both, as determined by the Committee at the time of payment.

### SECTION 3

#### PERFORMANCE SHARES AND PERFORMANCE UNITS

##### 3.1 *Performance Based Awards*

The Committee is authorized to grant Performance Shares and/or Performance Units to selected Grantees who are Employees or Consultants. Each grant of Performance Shares and/or Performance Units shall be evidenced by an Incentive Agreement in such amounts and upon such terms as shall be determined by the Committee. The Committee may make grants of Performance Shares and/or Performance Units in such a manner that more than one Performance Period is in progress concurrently. For each Performance Period, the Committee shall establish the number of Performance Shares and/or Performance Units and their contingent values which may vary depending on the degree to which performance criteria established by the Committee are met.

##### 3.2 *Performance Share or Performance Unit Award Terms*

(a) *Agreement.* The terms and conditions of each grant of Performance Share and/or Performance Unit Award shall be evidenced by an Incentive Agreement that shall specify the

Performance Period(s), the Performance Criteria, the number of Performance Shares or the number of Performance Units granted, and such other provisions as the Committee shall determine.

(b) *Transferability.* Except as provided in this Plan or an Incentive Agreement, Performance Shares and/or Performance Units granted herein may not be sold, transferred, pledged, assigned, or otherwise alienated or hypothecated until the end of the applicable Performance Period established by the Committee and specified in the Incentive Agreement (and, in the case of Performance Units, until the date of delivery or other payment), and the Performance Criteria have been met and confirmed by the Committee or upon earlier satisfaction of any other conditions, as specified by the Committee, in its sole discretion, and set forth in the Incentive Agreement or otherwise at any time by the Committee. All rights with respect to the Performance Shares and/or Performance Units granted to a Grantee under the Plan shall be available during his lifetime only to such Grantee, except as otherwise provided in an Incentive Agreement or at any time by the Committee.

(c) *Other Restrictions.* The Committee shall impose such other conditions and/or restrictions on any Performance Shares and/or Performance Units granted pursuant to the Plan as it may deem advisable, including, without limitation, a requirement that Grantees pay a stipulated purchase price for each Performance Share or Performance Unit, restrictions based upon the achievement of specific performance goals, time-based restrictions on vesting following the attainment of the performance goals, time-based restrictions, and/or restrictions under applicable laws or under the requirements of any stock exchange or market upon which Shares are listed or traded, or holding requirements or sale restrictions placed on Shares by the Company upon vesting of such Performance Shares and/or Performance Units.

To the extent deemed appropriate by the Committee, the Company may retain the certificates representing Performance Shares in the Company's possession until such time as all conditions and/or restrictions applicable to such shares have been satisfied or lapse.

Except as otherwise provided in this Section 3, Shares covered by each Performance Share Award shall become freely transferable by the Grantee after all conditions and restrictions applicable to such shares have been satisfied or lapse (including satisfaction of any applicable tax withholding obligations) at the close of the Performance Period and after confirmation by the Committee (but no later than 2½ months following the end of the year that contains the close of the Period of Restriction), or as soon as practicable thereafter. Performance Units shall be paid in cash, Shares, or a combination of cash and Shares as the Committee, in its sole discretion shall determine.

(d) *Certificate Legend.* In addition to any legends placed on certificates pursuant to Section 7.1(c), each certificate representing Performance Shares granted pursuant to the Plan may bear a legend such as the following or as otherwise determined by the Committee in its sole discretion:

the sale or transfer of shares of stock represented by this certificate, whether voluntary, involuntary, or by operation of law, is subject to certain restrictions on transfer as set forth in the 2013 long-term incentive plan, and in the associated incentive agreement. a copy of the plan and such incentive agreement may be obtained from Ion Geophysical Corporation.

(e) *Voting Rights.* Unless otherwise determined by the Committee or as otherwise set forth in a Grantee's Incentive Agreement, to the extent permitted or required by law, as determined by the Committee, Grantees holding Performance Shares granted hereunder may be granted the right to exercise full voting rights with respect to those shares during the Performance Period. A Grantee shall have no voting rights with respect to any Performance Units granted hereunder.

(f) *Termination of Employment.* Each Incentive Agreement shall set forth the extent to which the Grantee shall have the right to retain Performance Shares and/or Performance Units following termination of the Grantee's employment with or provision of services to the Company, its Affiliates, and/or its Subsidiaries, as the case may be. Such provisions shall be determined in the sole discretion of

the Committee, shall be included in the Incentive Agreement entered into with each Grantee, need not be uniform among all Performance Shares and/or Performance Units issued pursuant to the Plan, and may reflect distinctions based on the reasons for termination.

(g) *Section 83(b) Election.* The Committee may provide in an Incentive Agreement that the Award of Performance Shares is conditioned upon the Grantee making or refraining from making an election with respect to the Award under Section 83(b) of the Code. If a Grantee makes an election pursuant to Section 83(b) of the Code concerning a Performance Share Award, the Grantee shall be required to file promptly a copy of such election with the Company.

(h) *Performance Criteria.*

(i) The grant of Performance Shares shall be subject to such conditions, restrictions and contingencies, as determined by the Committee.

(ii) The Committee may designate a grant of Performance Shares to any Grantee as intended to qualify for the Performance-Based Exception. To the extent required by Code section 162(m), any grant of Performance Shares so designated shall be conditioned on the achievement of one or more performance goals, subject to the following:

(A) The performance goals shall be based upon criteria in one or more of the following categories: performance of the Company as a whole, performance of a segment of the Company's business, and individual performance. Performance criteria for the Company shall relate to the achievement of predetermined financial objectives for the Company and its Subsidiaries on a consolidated basis. Performance criteria for a segment of the Company's business shall relate to the achievement of financial and operating objectives of the segment for which the Grantee is accountable.

(B) Performance criteria shall include pre-tax or after-tax profit levels, including: earnings per share, earnings before interest and taxes, earnings before interest, taxes, depreciation and amortization, net operating profits after tax, and net income; total shareholder return; return on assets, equity, capital or investment; cash flow and cash flow return on investment; economic value added and economic profit; growth in earnings per share; levels of operating expense and maintenance expense; or measures of customer satisfaction and customer service, as determined from time to time including the relative improvement therein.

(C) Individual performance criteria shall relate to a Grantee's overall performance, taking into account, among other measures of performance, the attainment of individual goals and objectives. Performance goals may differ among Grantees.

(i) *Modification.* If the Committee determines, in its discretion exercised in good faith, that the established performance measures or objectives are no longer suitable to the Company's objectives because of a change in the Company's business, operations, corporate structure, capital structure, or other conditions the Committee deems to be appropriate, the Committee may modify the performance measures and objectives to the extent it considers to be necessary. However, if any Performance Shares are designated as intended to qualify for the Performance-Based Exception, no such modification shall be made to the extent the modification would otherwise cause the Performance Shares to not qualify for the Performance-Based Exception.

(j) *Payment.* The basis for payment of Performance Shares for a given Performance Period shall be the achievement of those performance objectives determined by the Committee at the beginning of the Performance Period as specified in the Grantee's Incentive Agreement. If minimum performance is not achieved for a Performance Period, no payment shall be made and all contingent rights shall cease. If minimum performance is achieved or exceeded, the number of Performance Shares may be based on the degree to which actual performance exceeded the pre-established minimum performance standards.



The amount of payment shall be determined by multiplying the number of Performance Shares granted at the beginning of the Performance Period times the final Performance Share value. Payments shall be made in cash or Common Stock in the discretion of the Committee as specified in the Incentive Agreement.

(k) *Special Rule for Covered Employees.* No later than the ninetieth (90th) day following the beginning of a Performance Period (or 25% of the Performance Period), the Committee shall establish performance goals applicable to Performance Shares and/or Performance Units awarded to Covered Employees in such a manner as shall permit payments with respect thereto to qualify for the Performance-Based Exception, if applicable. If a Performance Share granted to a Covered Employee is intended to comply with the Performance-Based Exception, the Committee in establishing performance goals shall comply with Treasury Regulation § 1.162-27(e)(2) (or its successor). As soon as practicable following the Company's determination of the Company's financial results for any Performance Period, the Committee shall certify in writing: (i) whether the Company achieved its minimum performance for the objectives for the Performance Period, (ii) the extent to which the Company achieved its performance objectives for the Performance Period, (iii) any other terms that are material to the grant of Performance Shares, and (iv) the calculation of the payments, if any, to be paid to each Grantee for the Performance Period.

### 3.3 *Supplemental Payment on Vesting of Performance Shares and/or Performance Units*

The Committee, either at the time of grant or at the time of vesting of Performance Shares and/or Performance Units, may provide for a Supplemental Payment by the Company to the Grantee in an amount specified by the Committee, which amount shall not exceed the amount necessary to pay the federal and state income tax payable with respect to both the vesting of such Performance Shares and/or Performance Units and receipt of the Supplemental Payment, assuming the Grantee is taxed at either the maximum effective income tax rate applicable thereto or at a lower tax rate as seemed appropriate by the Committee. The Committee shall also have the discretion to grant Supplemental Payments that are payable in Common Stock.

## SECTION 4

### RESTRICTED STOCK AND RESTRICTED STOCK UNITS

#### 4.1 *Grant of Restricted Stock or Restricted Stock Units*

Subject to the terms and provisions of the Plan, the Committee, at any time and from time to time, may grant Restricted Stock and/or Restricted Stock Units to Grantees in such amounts as the Committee shall determine. Restricted Stock Units shall be similar to Restricted Stock except that no Shares are actually awarded to the Grantee on the date of grant.

#### 4.2 *Restricted Stock Award or Restricted Stock Unit Award Terms*

(a) *Agreement.* The terms and conditions of each grant of Restricted Stock Award and/or Restricted Stock Unit Award shall be evidenced by an Incentive Agreement that shall specify the Period(s) of Restriction, the number of shares of Restricted Stock or the number of Restricted Stock Units granted, and such other provisions as the Committee shall determine. If not otherwise designated in the applicable Incentive Agreement or determined by the Committee, and subject to the provisions of the Plan regarding accelerated vesting and termination, the Period of Restriction on each Restricted Stock Award and/or Restricted Stock Unit Award under this Section 4 shall lapse with respect to the number of Shares of the Restricted Stock Award or the number of Restricted Stock Units on the following dates: (i) 33% of the Shares or units on the first anniversary of the date of grant, (ii) 33% of the Shares or units on the second anniversary of the date of grant, and (iii) the remaining Shares or units on the third anniversary of the date of grant.



(b) *Transferability.* Except as provided in this Plan or an Incentive Agreement, Restricted Stock and/or Restricted Stock Units granted herein may not be sold, transferred, pledged, assigned, or otherwise alienated or hypothecated until the end of the applicable Period of Restriction (and in the case of Restricted Stock Units until the date of delivery or other payment), or upon earlier satisfaction of any other conditions, as specified by the Committee, in its sole discretion, and set forth in the Incentive Agreement or otherwise at any time by the Committee. All rights with respect to the Restricted Stock and/or Restricted Stock Units granted to a Grantee under the Plan shall be available during his lifetime only to such Grantee, except as otherwise provided in an Incentive Agreement or at any time by the Committee.

(c) *Other Restrictions.* The Committee shall impose such other conditions and/or restrictions on any Restricted Stock or Restricted Stock Units granted pursuant to the Plan as it may deem advisable including, without limitation, a requirement that Grantees pay a stipulated purchase price for each Share of Restricted Stock or each Restricted Stock Unit, restrictions based upon the achievement of specific performance goals, time-based restrictions on vesting following the attainment of the performance goals, time-based restrictions, and/or restrictions under applicable laws or under the requirements of any stock exchange or market upon which such Shares are listed or traded, or holding requirements or sale restrictions placed on the Shares by the Company upon vesting of such Restricted Stock or Restricted Stock Units.

To the extent deemed appropriate by the Committee, the Company may retain the certificates representing shares of Restricted Stock in the Company's possession until such time as all conditions and/or restrictions applicable to such shares have been satisfied or lapse.

Except as otherwise provided in this Section 4, shares of Restricted Stock covered by each Restricted Stock Award shall become freely transferable by the Grantee after all conditions and restrictions applicable to such shares have been satisfied or lapse (including satisfaction of any applicable tax withholding obligations) at the close of the Period of Restriction (but no later than 2½ months following the end of the year that contains the close of the Period of Restriction), or as soon as practicable thereafter. Restricted Stock Units shall be paid in cash, Shares, or a combination of cash and Shares as the Committee, in its sole discretion shall determine.

(d) *Certificate Legend.* In addition to any legends placed on certificates pursuant to Section 7.1(c), each certificate representing Restricted Stock granted pursuant to the Plan may bear a legend such as the following or as otherwise determined by the Committee in its sole discretion:

the sale or transfer of shares of stock represented by this certificate, whether voluntary, involuntary, or by operation of law, is subject to certain restrictions on transfer as set forth in the 2013 long-term incentive plan, and in the associated incentive agreement. a copy of the plan and such incentive agreement may be obtained from Ion Geophysical Corporation.

(e) *Voting Rights.* Unless otherwise determined by the Committee or as otherwise set forth in a Grantee's Incentive Agreement, to the extent permitted or required by law, as determined by the Committee, Grantees holding shares of Restricted Stock granted hereunder may be granted the right to exercise full voting rights with respect to those shares during the Period of Restriction. A Grantee shall have no voting rights with respect to any Restricted Stock Units granted hereunder.

(f) *Termination of Employment.* Each Incentive Agreement shall set forth the extent to which the Grantee shall have the right to retain Restricted Stock and/or Restricted Stock Units following termination of the Grantee's employment with or provision of services to the Company, its Affiliates, and/or its Subsidiaries, as the case may be. Such provisions shall be determined in the sole discretion of the Committee, shall be included in the Incentive Agreement entered into with each Grantee, need not be uniform among all Shares of Restricted Stock or Restricted Stock Units issued pursuant to the Plan, and may reflect distinctions based on the reasons for termination.

(g) *Section 83(b) Election.* The Committee may provide in an Incentive Agreement that the Award of Restricted Stock is conditioned upon the Grantee making or refraining from making an election with respect to the Award under Section 83(b) of the Code. If a Grantee makes an election pursuant to Section 83(b) of the Code concerning a Restricted Stock Award, the Grantee shall be required to file promptly a copy of such election with the Company.

#### 4.3 *Supplemental Payment on Vesting of Restricted Stock and Restricted Stock Units*

The Committee, either at the time of grant or at the time of vesting of Restricted Stock or Restricted Stock Units, may provide for a Supplemental Payment by the Company to the Grantee in an amount specified by the Committee, which amount shall not exceed the amount necessary to pay the federal and state income tax payable with respect to both the vesting of such Restricted Stock or Restricted Stock Units and receipt of the Supplemental Payment, assuming the Grantee is taxed at either the maximum effective income tax rate applicable thereto or at a lower tax rate as seemed appropriate by the Committee. The Committee shall also have the discretion to grant Supplemental Payments that are payable in Common Stock.

## SECTION 5

### OTHER STOCK-BASED AWARDS

#### 5.1 *Grant of Other Stock-Based Awards*

Other Stock-Based Awards may be awarded by the Committee to selected Grantees that are denominated or payable in, valued in whole or in part by reference to, or otherwise related to, Shares of Common Stock, as deemed by the Committee to be consistent with the purposes of the Plan and the goals of the Company. Other types of Stock-Based Awards include, without limitation, Deferred Stock, purchase rights, convertible or exchangeable debentures, other rights convertible into Shares, Incentive Awards valued by reference to the value of securities of or the performance of a specified Subsidiary, division or department, and settlement in cancellation of rights of any person with a vested interest in any other plan, fund, program or arrangement that is or was sponsored, maintained or participated in by the Company or any Parent or Subsidiary. As is the case with other Incentive Awards, Other Stock-Based Awards may be awarded either alone or in addition to or in tandem with any other Incentive Awards.

#### 5.2 *Other Stock-Based Award Terms*

(a) *Agreement.* The terms and conditions of each grant of an Other Stock-Based Award shall be evidenced by an Incentive Agreement.

(b) *Purchase Price.* Except to the extent that an Other Stock-Based Award is granted in substitution for an outstanding Incentive Award or is delivered upon exercise of a Stock Option, the amount of consideration required to be received by the Company shall be either (i) no consideration other than services actually rendered (in the case of authorized and unissued shares) or to be rendered, or (ii) in the case of an Other Stock-Based Award in the nature of a purchase right, consideration (other than services rendered or to be rendered) at least equal to 50% of the Fair Market Value of the Shares covered by such grant on the date of grant (or such percentage higher than 50% that is required by any applicable tax or securities law).

(c) *Performance Criteria and Other Terms.* In its discretion, the Committee may specify such criteria, periods or goals for vesting in Other Stock-Based Awards and payment thereof to the Grantee as it shall determine; and the extent to which such criteria, periods or goals have been met shall be determined by the Committee. All terms and conditions of Other Stock-Based Awards shall be determined by the Committee and set forth in the Incentive Agreement. The Committee may also provide for a Supplemental Payment similar to such payment as described in Section 4.3.

(d) *Payment.* Other Stock-Based Awards may be paid in Shares of Common Stock or other consideration related to such Shares, in a single payment or in installments on such dates as determined by the Committee, all as specified in the Incentive Agreement.

(e) *Dividends.* The Grantee of an Other Stock-Based Award may be entitled to receive, currently or on a deferred basis, dividends or dividend equivalents with respect to the number of Shares covered by the Other Stock-Based Award, as determined by the Committee and set forth in the Incentive Agreement. The Committee may also provide in the Incentive Agreement that such amounts (if any) shall be deemed to have been reinvested in additional Shares of Common Stock.

## SECTION 6

### PROVISIONS RELATING TO NON-EMPLOYEE DIRECTOR AWARDS

#### 6.1 *Generally*

Awards under this Section 6 shall be made only to Non-Employee Directors and such awards shall be evidenced by a written or electronic agreement entered into between the Company and the Grantee setting forth the terms and conditions pursuant to which an Incentive Award is granted under the Plan.

#### 6.2 *Grants*

(a) *Time of Initial Award.* Subject to Section 6.2(c), if any person who is not, immediately prior to his appointment or election, an officer or employee of the Company shall become a Non-Employee Director of the Company, the Company may grant to such person (without any action by the Board or Committee) Restricted Stock or Restricted Stock Units under the Plan representing the number of shares of Common Stock designated from time to time by the Governance Committee of the Board. The date of grant of each such award shall be as provided by the policies of the Company then in effect, or such other date as the Governance Committee shall designate from time to time.

(b) *Subsequent Annual Awards.* Subject to Section 6.2(c), during the term of this Plan, each Non-Employee Director may be granted (without any action by the Committee or the Board) under the Plan the number of shares of Restricted Stock or Restricted Stock Units to be designated from time to time by the Governance Committee of the Board. The date of grant of each such award shall be as provided by the policies of the Company then in effect, or such other date as the Governance Committee shall designate from time to time.

(c) *Maximum Number of Options/Shares.* Grants pursuant to this Section 6.2 that would otherwise exceed the maximum number of Shares or limitations under Section 1.4 shall be prorated within such limitation.

6.3 *Restriction and Vesting Period.* Unless otherwise designated in the applicable Incentive Agreement or unless otherwise designated by the Governance Committee of the Board from time to time, and subject to Sections 6.4 and 6.5, each award of Restricted Stock or Restricted Stock Units granted under Section 6.2(a) shall become vested as to one-third of the total number of Shares subject thereto on each of the following dates: (i) the first anniversary of the date of grant, (ii) the second anniversary of the date of grant, and (iii) the third anniversary of the date of grant. Unless otherwise designated in the applicable Incentive Agreement or unless otherwise designated by the Governance Committee of the Board from time to time, and subject to Sections 6.4 and 6.5, each award of Restricted Stock or Restricted Stock Units granted under Section 6.2(b) shall become vested as to 100% of the total number of Shares subject thereto on the first anniversary of the date of grant.

6.4 *Termination of Directorship.* If a Non-Employee Director's services as a member of the Board terminate for any reason other than upon or because of a Corporate Event (as defined in Section 7.5(e)), any portion of an award of Restricted Stock or Restricted Stock Units granted pursuant to this Section 6 that is not then vested shall terminate. If a Non-Employee Director's services as a member of the Board terminate upon or because of a Corporate Event, an award of Restricted Stock or Restricted Stock Units granted pursuant to this Section 6 and then held by such participant may (as provided in or pursuant to Section 6.5) immediately become vested.

6.5 *Adjustments; Acceleration; Termination.* Awards of Restricted Stock and Restricted Stock Units granted under this Section 6 will be subject to adjustments, acceleration and termination as provided in Section 7.5, but only to the extent that such adjustment and any Board or Committee action in respect thereof in the case of a Corporate Event is effected pursuant to the terms of a reorganization agreement approved by the stockholders of the Company or is otherwise consistent with adjustments to the Restricted Stock or Restricted Stock Units held by persons other than executive officers or Directors of the Company (or, if there are none, consistent in respect of the underlying Shares, with the effect on or rights offered to stockholders generally). To the extent that any award of Restricted Stock or Restricted Stock Unit granted under this Section 6 is not vested prior to a Corporate Event, and no provision is (or consistent with the provisions of this Plan can be) made for the assumption, conversion, substitution or exchange of the Restricted Stock or Restricted Stock Units in the Corporate Event, the Restricted Stock or Restricted Stock Units will terminate upon the consummation of the Corporate Event. The participant, however, shall be entitled to the benefits of any alternative settlement of the award of Restricted Stock or Restricted Stock Units in such circumstances, as contemplated by Section 7.5.

6.6 *Non-Citizen Non-Employee Directors.* Notwithstanding anything in Section 6.2 to the contrary, grants of Restricted Stock or Restricted Stock Units to Non-Employee Directors who are non-citizens and non-residents of the United States (a “Non-Citizen Non-Employee Director”) shall not be automatic and shall be made only in accordance with this Section 6.6. Any Non-Citizen Non-Employee Director shall either be granted the same Restricted Stock or Restricted Stock Units by the Committee as are granted to Non-Employee Directors pursuant to Section 6.2, or the Committee or the Board shall authorize the Board of Directors of any Subsidiary to grant Restricted Stock or Restricted Stock Units for the purpose and on terms and conditions that are substantially equivalent to those provided in Section 6.2; *provided, however*, that the Board, Committee, or Board of Directors of a Subsidiary, as applicable, may determine that one or more grants of such Restricted Stock or Restricted Stock Units to a Non-Citizen Non-Employee Director shall be on terms that are more restrictive to the Director than the terms set forth above in this Section 6 with respect to Non-Employee Director Restricted Stock or Restricted Stock Unit grants generally (for example, and without limitation, awards of Restricted Stock or Restricted Stock Unit grants to a Non-Citizen Non-Employee Director may be granted with a longer vesting schedule than the schedule contemplated by Section 6.3 or may be granted with regard to a smaller number of Shares or units to reflect necessary tax withholding or other issues applicable to the award to the Non-Citizen Non-Employee Director).

## SECTION 7

### PROVISIONS RELATING TO PLAN PARTICIPATION

#### 7.1 *Plan Conditions*

(a) *Incentive Agreement.* Each Grantee to whom an Incentive Award is granted shall be required to enter into an Incentive Agreement with the Company, in such a form as is provided by the Committee. The Incentive Agreement shall contain specific terms as determined by the Committee, in its discretion, with respect to the Grantee’s particular Incentive Award. Such terms need not be uniform among all Grantees or any similarly-situated Grantees. The Incentive Agreement may include, without limitation, vesting, forfeiture and other provisions particular to the particular Grantee’s Incentive Award, as well as, for example, provisions to the effect that the Grantee (i) shall not disclose any confidential information acquired during Employment with the Company, (ii) shall abide by all the terms and conditions of the Plan and such other terms and conditions as may be imposed by the Committee, (iii) shall not interfere with the employment or other service of any employee, (iv) shall not compete with the Company or become involved in a conflict of interest with the interests of the Company, (v) shall forfeit an Incentive Award as determined by the Committee (including if terminated for Cause), (vi) shall not be permitted to make an election under Section 83(b) of the Code when

applicable, and (vii) shall be subject to any other agreement between the Grantee and the Company regarding Shares that may be acquired under an Incentive Award including, without limitation, a stockholders' agreement or other agreement restricting the transferability of Shares by Grantee. An Incentive Agreement shall include such terms and conditions as are determined by the Committee, in its discretion, to be appropriate with respect to any individual Grantee. The Incentive Agreement shall be acknowledged electronically or in writing by the Grantee to whom the Incentive Award is made and by an Authorized Officer.

(b) *No Right to Employment.* Nothing in the Plan or any instrument executed pursuant to the Plan shall create any Employment rights or right to serve on the Board (including without limitation, rights to continued Employment or to continue to provide services as a Director or Consultant) by any Grantee or affect the right of the Company to terminate the Employment or services of any Grantee at any time without regard to the existence of the Plan.

(c) *Securities Requirements.* The Company shall be under no obligation to effect the registration pursuant to the Securities Act of 1933 of any Shares of Common Stock to be issued hereunder or to effect similar compliance under any state laws. Notwithstanding anything herein to the contrary, the Company shall not be obligated to cause to be issued or delivered any certificates evidencing Shares pursuant to the Plan unless and until the Company is advised by its counsel that the issuance and delivery of such certificates is in compliance with all applicable laws, regulations of governmental authorities, and the requirements of any securities exchange or national quotation system on which Shares are traded or quoted. The Committee may require, as a condition of the issuance and delivery of certificates evidencing Shares of Common Stock pursuant to the terms hereof, that the recipient of such Shares make such covenants, agreements and representations, and that such certificates bear such legends, as the Committee, in its discretion, deems necessary or desirable.

If the Shares issuable on exercise of an Incentive Award are not registered under the Securities Act of 1933, the Company may imprint on the certificate for such Shares the following legend or any other legend which counsel for the Company considers necessary or advisable to comply with the Securities Act of 1933:

The shares of stock represented by this certificate have not been registered under the securities act of 1933 or under the securities laws of any state and may not be sold or transferred except upon such registration or upon receipt by the corporation of an opinion of counsel satisfactory to the corporation, in form and substance satisfactory to the corporation, that registration is not required for such sale or transfer.

## 7.2 *Transferability*

Incentive Awards granted under the Plan shall not be transferable or assignable, pledged, or otherwise encumbered other than by will or the laws of descent and distribution. However, with respect to Incentive Awards that are not Incentive Stock Options, the Committee may, in its discretion, authorize all or a portion of the Incentive Award to be granted on terms which permit transfer by the Grantee to (i) the members of the Grantee's Immediate Family, (ii) a trust or trusts for the exclusive benefit of Immediate Family members, (iii) a partnership in which Immediate Family members are the only partners, (iv) any other entity owned solely by Immediate Family members, or (v) pursuant to a domestic relations order that would qualify under Code Section 414(p); *provided* that (A) the Incentive Agreement pursuant to which such Incentive Award is granted must expressly provide for transferability in a manner consistent with this Section 7.2, (B) the actual transfer must be approved in advance by the Committee, and (C) subsequent transfers of transferred Incentive Awards shall be prohibited except in accordance with the first sentence of this Section. Following any permitted transfer, the Incentive Award shall continue to be subject to the same terms and conditions as were applicable immediately prior to transfer, *provided* that the term "Grantee" (subject to the immediately succeeding paragraph) shall be deemed to refer to the transferee. The events of termination of employment, as set out in Section 7.6 and in the



Incentive Agreement, shall continue to be applied with respect to the original Grantee, and the Incentive Award shall be exercisable by the transferee only to the extent, and for the periods, specified in the Incentive Agreement.

Except as may otherwise be permitted under the Code, in the event of a permitted transfer of a Nonstatutory Stock Option hereunder, the original Grantee shall remain subject to withholding taxes upon exercise. In addition, the Company and the Committee shall have no obligation to provide any notices to any Grantee or transferee thereof, including, for example, notice of the expiration of an Incentive Award following the original Grantee's termination of employment.

The designation by a Grantee of a beneficiary of an Incentive Award shall not constitute a transfer of the Incentive Award. No transfer by will or by the laws of descent and distribution shall be effective to bind the Company unless the Committee has been furnished with a copy of the deceased Grantee's enforceable will or such other evidence as the Committee deems necessary to establish the validity of the transfer. Any attempted transfer in violation of this Section 7.2 shall be void and ineffective. The Committee in its discretion shall make all determinations under this Section 7.2.

### *7.3 Rights as a Stockholder*

(a) No Stockholder Rights. Except as otherwise set forth in Section 3 or Section 4, a Grantee of an Incentive Award (or a permitted transferee of such Grantee) shall have no rights as a stockholder with respect to any Shares of Common Stock until the issuance of a stock certificate for such Shares.

(b) Representation of Ownership. In the case of the exercise of an Incentive Award by a person or estate acquiring the right to exercise such Incentive Award by reason of the death or Disability of a Grantee, the Committee may require reasonable evidence as to the ownership of such Incentive Award or the authority of such person and may require such consents and releases of taxing authorities as the Committee may deem advisable.

### *7.4 Listing and Registration of Shares of Common Stock*

The exercise of any Incentive Award granted hereunder shall only be effective at such time as counsel to the Company shall have determined that the issuance and delivery of Shares of Common Stock pursuant to such exercise is in compliance with all applicable laws, regulations of governmental authorities and the requirements of any securities exchange or quotation system on which Shares of Common Stock are traded or quoted. The Committee may, in its discretion, elect to suspend the right to exercise any Incentive Award during any Company-imposed employee "blackout" stock trading period that is necessary or desirable to comply with requirements of such laws, regulations or requirements. The Committee may also, in its discretion, elect to extend the period for exercise of any Incentive Award to reflect any such "blackout" period. The Committee may, in its discretion, defer the effectiveness of any exercise of an Incentive Award in order to allow the issuance of Shares of Common Stock to be made pursuant to registration or an exemption from registration or other methods for compliance available under federal or state securities laws. The Committee shall inform the Grantee in writing of its decision to defer the effectiveness of the exercise of an Incentive Award.

### *7.5 Change in Stock and Adjustments*

(a) Changes in Law. Subject to Section 7.7 (which only applies in the event of a Change of Control), in the event of any change in applicable law that warrants equitable adjustment because it interferes with the intended operation of the Plan, then, if the Committee should determine, in its absolute discretion, that such change equitably requires an adjustment in the number or kind of shares of stock or other securities or property theretofore subject, or which may become subject, to issuance or transfer under the Plan or in the terms and conditions of outstanding Incentive Awards, such adjustment shall be made in accordance with such determination. Such adjustments may include changes with respect to (i) the aggregate number of Shares that may be issued under the Plan, (ii) the



number of Shares subject to Incentive Awards, (iii) the price per Share for outstanding Incentive Awards, and/or (iv) Performance Period and/or Performance Criteria for outstanding Incentive Awards. Any adjustment under this paragraph of an outstanding Incentive Stock Option shall be made only to the extent not constituting a “modification” within the meaning of Section 424(h)(3) of the Code unless otherwise agreed to by the Grantee in writing. The Committee shall give notice to each applicable Grantee of such adjustment, which shall be effective and binding.

(b) *Exercise of Corporate Powers.* The existence of the Plan or outstanding Incentive Awards hereunder shall not affect in any way the right or power of the Company or its stockholders to make or authorize any or all adjustments, re-capitalizations, reorganizations or other changes in the Company’s capital structure or its business or any merger or consolidation of the Company, or any issue of bonds, debentures, preferred or prior preference stocks ahead of or affecting the Common Stock or the rights thereof, or the dissolution or liquidation of the Company, or any sale or transfer of all or any part of its assets or business, or any other corporate act or proceeding whether of a similar character or otherwise.

(c) *Recapitalization of the Company.* Subject to Section 7.7 (which only applies in the event of a Change in Control), in the event that the Committee shall determine that any dividend or other distribution (whether in the form of cash, Common Stock, other securities, or other property), re-capitalization, stock split, reverse stock split, rights offering, reorganization, merger, consolidation, split-up, spin-off, split-off, combination, subdivision, repurchase, or exchange of Common Stock or other securities of the Company, issuance of warrants or other rights to purchase Common Stock or other securities of the Company, or other similar corporate transaction or event (whether related to a Change in Control or not) affects the Common Stock such that an adjustment is determined by the Committee to be appropriate to prevent the dilution or enlargement of the benefits or potential benefits intended to be made available under the Plan, then the Committee shall, in such manner as it deems equitable, adjust any or all of (i) the number of shares and type of Common Stock (or the securities or property) which thereafter may be made the subject of Incentive Awards, (ii) the number of shares and type of Common Stock (or other securities or property) subject to outstanding Incentive Awards, (iii) the number of shares and type of Common Stock (or other securities or property) subject to the annual per-individual limitation under Section 1.4 of the Plan, (iv) the Option Price of each outstanding Incentive Award, and (v) the number of or Option Price of Shares of Common Stock then subject to outstanding SARs previously granted and unexercised under the Plan, to the end that the same proportion of the Company’s issued and outstanding shares of Common Stock in each instance shall remain subject to exercise at the same aggregate Option Price; *provided, however*, that the number of Shares of Common Stock (or other securities or property) subject to any Incentive Award shall always be a whole number. In lieu of the foregoing, if deemed appropriate, the Committee may make provision for a cash payment to the holder of an outstanding Incentive Award. Notwithstanding the foregoing, no such adjustment or cash payment shall be made or authorized to the extent that such adjustment or cash payment would cause the Plan or any Stock Option to violate Section 422 of the Code. Such adjustments shall be made in accordance with the rules of any securities exchange, stock market, or stock quotation system to which the Company is subject.

Upon the occurrence of any such adjustment or cash payment, the Company shall provide notice to each affected Grantee of its computation of such adjustment or cash payment, which shall be conclusive and shall be binding upon each such Grantee.

(d) *Issue of Common Stock by the Company.* Except as otherwise provided in this Section 7.5 and subject to Section 7.7 in the event of a Change in Control, the issue by the Company of shares of stock of any class, or securities convertible into shares of stock of any class, for cash or property, or for labor or services, either upon direct sale or upon the exercise of rights or warrants to subscribe therefor, or upon any conversion of shares or obligations of the Company convertible into such shares or other securities, shall not affect, and no adjustment by reason thereof shall be made with respect to,

the number of, or Fair Market Value of, any Incentive Awards then outstanding under previously granted Incentive Awards.

(e) *Assumption of Incentive Awards by a Successor.* Unless otherwise determined by the Committee in its discretion pursuant to the next paragraph, but subject to the accelerated vesting and other provisions of Section 7.7 that apply in the event of a Change in Control, in the event of a Corporate Event (defined below), each Grantee shall be entitled to receive, in lieu of the number of Shares subject to Incentive Awards, such shares of capital stock (or other securities or property) as may be issuable or payable with respect to or in exchange for the number of Shares which Grantee would have received had he exercised the Incentive Award immediately prior to such Corporate Event, together with any adjustments (including, without limitation, adjustments to the Option Price and the number of Shares issuable on exercise of outstanding Stock Options). A “Corporate Event” means any of the following: (i) a dissolution or liquidation of the Company, (ii) a sale of all or substantially all of the Company’s assets, or (iii) a merger, consolidation or combination involving the Company (other than a merger, consolidation or combination (A) in which the Company is the continuing or surviving corporation and (B) which does not result in the outstanding Shares being converted into or exchanged for different securities, cash or other property, or any combination thereof). The Committee shall take whatever other action it deems appropriate to preserve the rights of Grantees holding outstanding Incentive Awards.

Subject to the accelerated vesting and other provisions of Section 7.7 that apply in the event of a Change in Control, in the event of a Corporate Event, the Committee in its discretion shall have the right and power to:

(i) cancel, effective immediately prior to the occurrence of the Corporate Event, each outstanding Incentive Award (whether or not then exercisable) and, in full consideration of such cancellation, pay to the Grantee an amount in cash equal to the excess of (A) the value, as determined by the Committee, of the property (including cash) received by the holders of Common Stock as a result of such Corporate Event over (B) the exercise price of such Incentive Award, if any; or

(ii) provide for the exchange or substitution of each Incentive Award outstanding immediately prior to such Corporate Event (whether or not then exercisable) for another award with respect to the Common Stock or other property for which such Incentive Award is exchangeable and, incident thereto, make an equitable adjustment as determined by the Committee, in its discretion, in the exercise price of the Incentive Award, if any, or in the number of Shares or amount of property (including cash) subject to the Incentive Award; or

(iii) provide for the assumption of the Plan and such outstanding Incentive Awards by the surviving entity or its parent.

The Committee, in its discretion, shall have the authority to take whatever action it deems to be necessary or appropriate to effectuate the provisions of this Subsection (e).

#### *7.6 Termination of Employment, Death, Disability and Retirement*

(a) *Termination of Relationship.* Unless otherwise expressly provided in the Grantee’s Incentive Agreement, if the Grantee’s Employment or services as a Director or Consultant is terminated for any reason other than due to his death, Disability, Retirement, or for Cause, any non-vested portion of any Stock Option or other applicable Incentive Award at the time of such termination shall automatically expire and terminate and no further vesting shall occur after the termination date. In such event, except as otherwise expressly provided in his Incentive Agreement, the Grantee shall be entitled to exercise his rights only with respect to the portion of the Incentive Award that was vested as of the effective date of his termination of Employment or service. In such event, except as otherwise expressly provided in his Incentive Agreement, the Grantee shall be entitled to exercise his vested Stock Options

for a period that shall end on the earlier of (i) the expiration date set forth in the Incentive Agreement for such Incentive Award and (ii) three (3) months after the effective date of his termination of Employment or service.

(b) Termination for Cause. Unless otherwise expressly provided in the Grantee's Incentive Agreement, in the event of the termination of a Grantee's Employment, or service as a Consultant or Director, for Cause, all vested and non-vested Stock Options and other Incentive Awards (other than vested Restricted Stock or vested Restricted Stock Units) granted to such Grantee shall immediately expire, and shall not be exercisable to any extent, as of 12:01 a.m., Houston, Texas time, on the date of such termination of Employment or service for cause.

(c) Retirement. Unless otherwise expressly provided in the Grantee's Incentive Agreement, upon the termination of Employment due to the Retirement (as defined in Section 1.2) of any Employee who is a Grantee:

(i) all of his Stock Options and Stock Appreciation Rights then outstanding shall become 100% vested and immediately and fully exercisable until the earlier of (A) the expiration date set forth in the Incentive Agreement for such Incentive Award and (B) the expiration of twelve (12) months after the effective date of his termination of Employment due to his Retirement (in the case of any Incentive Award other than an Incentive Stock Option) or three (3) months after the effective date of his termination of Employment due to his Retirement (in the case of an Incentive Stock Option); and

(ii) all of the restrictions and conditions of any of his Other Stock-Based Awards then outstanding shall be deemed satisfied, and the Period of Restriction with respect thereto shall be deemed to have expired, and each such Incentive Award shall thereupon become free of all restrictions and fully vested.

(d) Disability or Death. Unless otherwise expressly provided in the Grantee's Incentive Agreement, upon the termination of Employment or service as a Director due to the Disability or death of any Employee or Non-Employee Director who is a Grantee:

(i) all of his Stock Options and Stock Appreciation Rights then outstanding shall become 100% vested and immediately and fully exercisable until the earlier of (A) the expiration date set forth in the Incentive Agreement for such Incentive Award and (B) the expiration of twelve (12) months after the effective date of his termination of Employment or service due to his Disability or death;

(ii) any Period of Restriction with respect to any of his Restricted Stock or Restricted Stock Units shall be deemed to have expired and all restrictions imposed on Restricted Stock or Restricted Stock Units shall lapse, and each such Incentive Award shall thereupon become free of all restrictions and fully vested; and

(iii) all of the restrictions and conditions of any of his Other Stock-Based Awards then outstanding shall be deemed satisfied, and the Period of Restriction with respect thereto shall be deemed to have expired, and each such Incentive Award shall thereupon become free of all restrictions and fully vested.

In the case of any vested Incentive Stock Option held by an Employee following termination of Employment, notwithstanding the definition of "Disability" in Section 1.2, whether the Employee has incurred a "Disability" for purposes of determining the length of the Option exercise period following termination of Employment under this Subsection (d) shall be determined by reference to Section 22(e)(3) of the Code to the extent required by Section 422(c)(6) of the Code. The Committee shall determine whether a Disability for purposes of this Subsection (d) has occurred.

(e) *Continuation.* Subject to the conditions and limitations of the Plan and applicable law and regulation, in the event that a Grantee ceases to be an Employee or Consultant, as applicable, for whatever reason, the Committee and Grantee may mutually agree with respect to any outstanding Option or other Incentive Award then held by the Grantee (i) for an acceleration or other adjustment in any vesting schedule applicable to the Incentive Award, (ii) for a continuation of the exercise period following termination for a longer period than is otherwise provided under such Incentive Award, or (iii) to any other change in the terms and conditions of the Incentive Award. In the event of any such change to an outstanding Incentive Award, a written or electronic amendment to the Grantee's Incentive Agreement shall be required.

#### 7.7 *Change in Control*

In the event of a Change in Control (as defined below), the following actions shall automatically occur as of the day immediately preceding the effective date of the Change in Control unless expressly provided otherwise in the Grantee's Incentive Agreement or otherwise designated in advance by the Committee:

(a) all of the Stock Options and Stock Appreciation Rights then outstanding shall become 100% vested and immediately and fully exercisable;

(b) any Period of Restriction with respect to any Restricted Stock or Restricted Stock Unit shall be deemed to have expired and all restrictions imposed on Restricted Stock or Restricted Stock Units shall lapse, and thus each such Incentive Award shall become free of all restrictions and fully vested;

(c) all of the restrictions and conditions of any Other Stock-Based Awards then outstanding shall be deemed satisfied, and the Period of Restriction with respect thereto shall be deemed to have expired, and thus each such Incentive Award shall become free of all restrictions and fully vested;

(d) all of the Restricted Stock, Restricted Stock Units and any Other Stock-Based Awards shall become fully vested, deemed earned in full, and promptly paid within thirty (30) days to the affected Grantees without regard to payment schedules and notwithstanding that the applicable performance cycle, retention cycle or other restrictions and conditions have not been completed or satisfied; and

(e) all of the Incentive Awards subject to Performance Periods and/or Performance Criteria shall become fully vested at the higher of the current performance level or the Target Level, deemed earned in full, and promptly paid within two and a half (2½) months to the affected Grantees without regard to payment schedules and notwithstanding that the applicable performance cycle, retention cycle or other restrictions and conditions have not been completed or satisfied.

Notwithstanding any other provision of this Plan, unless otherwise expressly provided in the Grantee's Incentive Agreement, the provisions of this Section 7.7 may not be terminated, amended, or modified to adversely affect any Incentive Award theretofore granted under the Plan without the prior written or electronic consent of the Grantee with respect to his outstanding Incentive Awards.

For all purposes of this Plan, a "Change in Control" of the Company means the occurrence of any one or more of the following events:

(A) The acquisition by any individual, entity or group (within the meaning of Section 13(d)(3) or 14(d)(2) of the Exchange Act (a "Person")) of beneficial ownership (within the meaning of Rule 13d-3 promulgated under the Exchange Act) of 40% or more of either (i) the then outstanding shares of common stock of the Company (the "Outstanding Company Stock") or (ii) the combined voting power of the then outstanding voting securities of the Company entitled to vote generally in the election of directors (the "Outstanding Company Voting Securities"); *provided, however*, that the following acquisitions shall not constitute a Change in Control: (i) any acquisition directly from the Company or any Subsidiary, (ii) any acquisition by the Company or any Subsidiary or by any employee benefit plan (or related trust) sponsored or maintained by the

Company or any Subsidiary, or (iii) any acquisition by any corporation pursuant to a reorganization, merger, consolidation or similar business combination involving the Company (a “Merger”), if, following such Merger, the conditions described in clauses (i) and (ii) of Section 7.7(c) are satisfied;

(B) Individuals who, as of the Effective Date, constitute the Board of Directors of the Company (the “Incumbent Board”) cease for any reason to constitute at least a majority of the Board; *provided, however,* that any individual becoming a director subsequent to the Effective Date whose election, or nomination for election by the Company’s shareholders, was approved by a vote of at least a majority of the directors then comprising the Incumbent Board shall be considered as though such individual were a member of the Incumbent Board, but excluding, for this purpose, any such individual whose initial assumption of office occurs as a result of either an actual or threatened election contest (a solicitation by any person or group of persons for the purpose of opposing a solicitation of proxies or consents by the Board with respect to the election or removal of Directors at any annual or special meeting of stockholders) or other actual or threatened solicitation of proxies or consents by or on behalf of a Person other than the Board;

(C) Consummation of a Merger, unless immediately following such Merger, (i) substantially all of the holders of the Outstanding Company Voting Securities immediately prior to Merger beneficially own, directly or indirectly, more than 50% of the common stock of the corporation resulting from such Merger (or its parent corporation) in substantially the same proportions as their ownership of Outstanding Company 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 Incumbent Board at the time of the execution of the initial agreement providing for such Merger; or

(D) The sale or other disposition of all or substantially all of the assets of the Company.

#### 7.8 *Exchange of Incentive Awards*

The Committee may, in its discretion, permit any Grantee to surrender outstanding Incentive Awards in order to exercise or realize his rights under other Incentive Awards or in exchange for the grant of new Incentive Awards, or require holders of Incentive Awards to surrender outstanding Incentive Awards (or comparable rights under other plans or arrangements) as a condition precedent to the grant of new Incentive Awards.

## SECTION 8

### GENERAL

#### 8.1 *Effective Date and Grant Period*

The Plan is adopted by the Board effective as of February 11, 2013, subject to the approval of the stockholders of the Company. No Incentive Award that is an Incentive Stock Option shall be granted under the Plan after ten (10) years from the Effective Date. Unless sooner terminated by action of the Board, this Plan will terminate at 5:00 p.m. Houston, Texas time, on May 21, 2023. Incentive Awards under this Plan may not be granted after that date, but any Incentive Award duly granted before that date will continue to be effective in accordance with its terms and conditions.

#### 8.2 *Funding and Liability of Company*

No provision of the Plan shall require the Company, for the purpose of satisfying any obligations under the Plan, to purchase assets or place any assets in a trust or other entity to which contributions are made, or otherwise to segregate any assets. In addition, the Company shall not be required to maintain separate bank accounts, books, records or other evidence of the existence of a segregated or separately maintained or administered fund for purposes of the Plan. Although bookkeeping accounts



may be established with respect to Grantees who are entitled to cash, Common Stock or rights thereto under the Plan, any such accounts shall be used merely as a bookkeeping convenience. The Company shall not be required to segregate any assets that may at any time be represented by cash, Common Stock or rights thereto. The Plan shall not be construed as providing for such segregation, nor shall the Company, the Board or the Committee be deemed to be a trustee of any cash, Common Stock or rights thereto. Any liability or obligation of the Company to any Grantee with respect to an Incentive Award shall be based solely upon any contractual obligations that may be created by this Plan and any Incentive Agreement, and no such liability or obligation of the Company shall be deemed to be secured by any pledge or other encumbrance on any property of the Company. Neither the Company, the Board nor the Committee shall be required to give any security or bond for the performance of any obligation that may be created by the Plan.

### 8.3 *Withholding Taxes*

(a) *Tax Withholding.* The Company shall have the power and the right to deduct or withhold, or require a Grantee to remit to the Company, an amount sufficient to satisfy federal, state, and local taxes, domestic or foreign, required by law or regulation to be withheld with respect to any taxable event arising as a result of the Plan or an Incentive Award hereunder.

(b) *Share Withholding.* With respect to tax withholding required upon the exercise of Stock Options or SARs, or upon any other taxable event arising as a result of any Incentive Awards, Grantees may elect, subject to the approval of the Committee in its discretion, to satisfy the withholding requirement, in whole or in part, by having the Company withhold Shares or Units having a Fair Market Value on the date the tax is to be determined equal to the minimum withholding tax which could be imposed on the transaction or such other applicable withholding rate allowed by the Company and applicable law. All such elections shall be made in electronically or writing, acknowledged by the Grantee, and shall be subject to any restrictions or limitations that the Committee, in its discretion, deems appropriate.

### 8.4 *No Guarantee of Tax Consequences*

Neither the Company nor the Committee makes any commitment or guarantee that any federal, state or local tax treatment will apply or be available to any person participating or eligible to participate hereunder.

### 8.5 *Designation of Beneficiary by Grantee*

Incentive Awards under the Plan will be subject to a beneficiary election filed with the Company. The election will be filed with, and subject to all rules defined by, the Company and will apply to all Incentive Awards under the Plan. In the absence of any such designation, benefits remaining unpaid at the Grantee's death shall be paid to the Grantee's estate.

### 8.6 *Amendment and Termination*

The Board shall have the power and authority to terminate or amend the Plan at any time. No termination, amendment, or modification of the Plan shall adversely affect in any material way any outstanding Incentive Award previously granted to a Grantee under the Plan, without the written or electronic consent of such Grantee or other designated holder of such Incentive Award.

In addition, to the extent that the Committee determines that (a) the listing or qualification requirements of any national securities exchange or quotation system on which the Company's Common Stock is then listed or quoted, if applicable, or (b) the Code (or regulations promulgated thereunder), require stockholder approval in order to maintain compliance with such listing or quotation system requirements or to maintain any favorable tax advantages or qualifications, then the Plan shall not be amended in such respect without approval of the Company's stockholders.



### 8.7 *Governmental Entities and Securities Exchanges*

The granting of Incentive Awards and the issuance of Shares under the Plan shall be subject to all applicable laws, rules, and regulations, and to such approvals by any governmental agencies or national securities exchanges as may be required. Certificates evidencing shares of Common Stock delivered under this Plan (to the extent that such shares are so evidenced) may be subject to such stop transfer orders and other restrictions as the Committee may deem advisable under the rules and regulations of the Securities and Exchange Commission, any securities exchange or transaction reporting system upon which the Common Stock is then listed or to which it is admitted for quotation, and any applicable federal or state securities law, if applicable. The Committee may cause a legend or legends to be placed upon such certificates (if any) to make appropriate reference to such restrictions.

### 8.8 *Successors to Company*

All obligations of the Company under the Plan with respect to Incentive Awards granted hereunder shall be binding on any successor to the Company, whether the existence of such successor is the result of a direct or indirect purchase, merger, consolidation, or otherwise, of all or substantially all of the business and/or assets of the Company.

### 8.9 *Miscellaneous Provisions*

(a) No Employee or Consultant, or other person shall have any claim or right to be granted an Incentive Award under the Plan. Neither the Plan, nor any action taken hereunder, shall be construed as giving any Employee, Director or Consultant, any right to be retained in the Employment or other service of the Company or any Parent or Subsidiary.

(b) By accepting any Incentive Award, each Grantee and each person claiming by or through him shall be deemed to have indicated his acceptance of the Plan.

(c) Performance-based awards granted under the Plan to a Grantee who is subject to the Company's Compensation Recoupment Policy, as may be amended from time to time, may be reduced or subject to recoupment pursuant to the terms and conditions of such policy.

### 8.10 *Severability*

In the event that any provision of this Plan shall be held illegal, invalid or unenforceable for any reason, such provision shall be fully severable, but shall not affect the remaining provisions of the Plan, and the Plan shall be construed and enforced as if the illegal, invalid, or unenforceable provision was not included herein.

### 8.11 *Gender, Tense and Headings*

Whenever the context so requires, words of the masculine gender used herein shall include the feminine and neuter, and words used in the singular shall include the plural. Section headings as used herein are inserted solely for convenience and reference and constitute no part of the interpretation or construction of the Plan.

### 8.12 *Governing Law*

The Plan shall be interpreted, construed and constructed in accordance with the laws of the State of Texas without regard to its conflicts of law provisions, except as may be superseded by applicable laws of the United States or applicable provisions of the Delaware General Corporation Law.

### 8.13 *Deferred Compensation*

This Plan and any Incentive Agreement issued under the Plan is intended to meet the requirements of Section 409A of the Code and shall be administered in a manner that is intended to meet those requirements and shall be construed and interpreted in accordance with such intent. To the

extent that an Incentive Award or payment, or the settlement or deferral thereof, is subject to Section 409A of the Code, except as the Board otherwise determines in writing, the Incentive Award shall be granted, paid, settled or deferred in a manner that will meet the requirements of Section 409A of the Code, including regulations or other guidance issued with respect thereto, such that the grant, payment, settlement or deferral shall not be subject to the excise tax applicable under Section 409A of the Code. Any provision of this Plan or any Incentive Agreement that would cause an Incentive Award or the payment, settlement or deferral thereof to fail to satisfy Section 409A of the Code shall be amended (in a manner that as closely as practicable achieves the original intent of this Plan or the Incentive Agreement, as applicable) to comply with Section 409A of the Code on a timely basis, which may be made on a retroactive basis, in accordance with regulations and other guidance issued under Section 409A of the Code. In the event the Plan allows for a deferral of compensation, the Plan is intended to qualify for certain exemptions under Title I of ERISA provided for plans that are unfunded and maintained primarily for the purpose of providing deferred compensation for a select group of management or highly-compensated employees.

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**

Washington, DC 20549

**Form 10-K**

(Mark One)

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

For the Fiscal Year Ended December 31, 2012

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**  
(State or Other Jurisdiction of  
Incorporation or Organization)

**22-2286646**  
(I.R.S. Employer  
Identification No.)

**2105 CityWest Blvd  
Suite 400  
Houston, Texas 77042-2839**  
(Address of Principal Executive Offices, Including Zip Code)

**(281) 933-3339**  
(Registrant's Telephone Number, Including Area Code)

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

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock, \$0.01 par value	New York Stock Exchange

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

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

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

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

Indicate by check mark whether the registrant has submitted electronically 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  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.

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

Large accelerated filer  Accelerated filer  Non-accelerated filer  Smaller reporting company   
(Do not check if a 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

As of June 29, 2012 (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 \$1.0 billion based on the closing sale price on such date as reported on the New York Stock Exchange.

As of February 12, 2013, the number of shares of common stock, \$0.01 par value, outstanding was 156,390,699 shares.

**DOCUMENTS INCORPORATED BY REFERENCE**

<u>Document</u>	<u>Parts Into Which Incorporated</u>
Portions of the registrant's definitive Proxy Statement for its Annual Meeting of Stockholders scheduled to be held on May 22, 2013, to be filed pursuant to Regulation 14A . . . . .	Part III

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## PART I

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

In this Form 10-K, “ION Geophysical,” “ION,” “the company,” “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 technology-focused seismic solutions company that provides planning and seismic processing services, software and advanced acquisition equipment to the global energy industry. 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 during exploration, exploitation, and production operations. We acquire and process seismic data from seismic surveys in regional data programs, which then become part of our seismic data library. Our services and products are intended to measure and interpret seismic data about rock and fluid properties within the Earth’s subsurface to enable oil and gas companies to make improved drilling and production decisions. The seismic surveys for our data library business are pre-funded, or underwritten, in part by our customers, and we contract with third party seismic data acquisition companies to shoot and acquire the seismic data, all of which is intended to minimize our risk exposure. We serve customers in all major energy producing regions of the world from strategically located offices in 20 cities on five continents.

In March 2010, we formed a joint venture with BGP, Inc., China National Petroleum Corporation (“BGP”), a subsidiary of China National Petroleum Corporation (“CNPC”), and contributed most of our land seismic equipment businesses to INOVA Geophysical Equipment Limited (“INOVA Geophysical”), the joint venture entity. BGP is generally regarded as the world’s largest land geophysical service contractor. BGP owns a 51% interest in INOVA Geophysical, and we own a 49% interest.

Our services and products include the following:

- Seismic data processing and reservoir imaging services,
- Seismic data libraries,
- Planning services for survey design and optimization,
- Navigation, command & control, and data management software products,
- Marine seismic data acquisition equipment, and
- Land seismic data acquisition equipment (principally through our 49% ownership in INOVA Geophysical).

Seismic imaging plays a fundamental role in hydrocarbon exploration and reservoir development by delineating structures, rock types, and fluid locations in the subsurface. Geoscientists interpret seismic data to identify new sources of hydrocarbons and pinpoint drilling locations for wells, which can be costly and involve high risk. As oil and gas reservoirs have become harder to find and more expensive to develop and exploit in recent years, the demand for advanced seismic imaging solutions has grown. In addition, seismic technologies are now being applied more broadly over the entire life cycle of a

hydrocarbon reservoir to optimize production. For example, time-lapse seismic images (referred to as “4D” or “four-dimensional” surveys), in which the fourth dimension is time, can be made of producing reservoirs to track the movement of injected or produced fluids and/or to identify locations containing by-passed hydrocarbons.

ION has been involved in the seismic technology industry for over 40 years, starting in the 1960s when we designed and manufactured seismic equipment under our previous company name, Input/Output, Inc. In recent years, we have transformed our business from being solely a manufacturer and seller of seismic equipment to being a provider of a full range of seismic imaging services, technologies, and products.

We operate our company through three business segments: Solutions, Systems, and Software; and through our INOVA Geophysical joint venture.

- *Solutions*—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™ services group.
- *Systems*—towed marine streamer and re-deployable ocean bottom cable seismic data acquisition systems and shipboard recorders, streamer positioning and control systems, energy sources and analog geophone sensors.
- *Software*—software systems and related services for navigation and data management involving towed marine streamer and seabed operations.
- *INOVA Geophysical*—through our interest in INOVA Geophysical, 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.

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](http://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 Form 10-K.

In portions of this 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.

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](http://www.sec.gov) that contains reports, proxy statements, and other information regarding SEC registrants, including our company.

### **Seismic Industry Overview**

*1930’s - 1970’s.* 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, the Company's 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.

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.

*1980's.* 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.

*1990's—present.* As commodity prices decreased in the late 1990's 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.

These conditions 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. 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, and were within a range of approximately \$80 to \$100 per barrel at the end of 2012. Brent crude oil prices have also recovered and finished 2012 near \$110 per barrel; however, North American natural gas prices have remained depressed from their 2008 levels.

## **ION Geophysical's Business Strategy**

### ***Factors Affecting Long-Term Demand***

We are now seeing increasing levels of capital spending related to E&P activity, and we believe that current conditions exist that favor increased seismic spending for the years ahead. These conditions include the following:

- Global demand for crude oil remains high;
- The decline in crude oil reserves in major producing fields around the world has continued, and the pace of reinvestment into exploration and development will need to increase to offset future production declines;
- Remaining oil reserves are proving harder to find, and the potential for large undiscovered or underdeveloped reservoirs in offshore locations should continue to drive demand by E&P companies and seismic contractors for improvements in marine equipment technology and offshore seismic data libraries;
- U.S. oil production surged in 2012 to 6.4 million barrels per day, a 15-year high and up from 5.6 million barrels a day in 2011, due mainly to the use of new technologies designed to locate and unlock deposits of oil and gas in formations previously thought to be unreachable;
- E&P expenditures are forecast to increase each year through 2015;
- Large E&P companies are focusing on hydrocarbon reservoirs that are located in complex shale geological formations and harder-to-access regions of the world, which should increase demand for newer and more efficient imaging processing and equipment technology solutions; and
- While North American natural gas prices remain at depressed levels, Henry Hub prices did increase during the second half of 2012, and investment in shale liquids markets should remain relatively strong in North America and in other parts of the world.

The complex hydrocarbon reservoirs that have been developed in recent years generally have more subtle characteristics than the reservoirs that were discovered in prior decades. These unconventional reservoir types include shale plays, tight gas formations and oil sands. As a result, the process of finding and developing these hydrocarbon deposits is proving to be more challenging, which in turn results in escalating costs and increasing demands for newer and more efficient imaging technologies. Also, producers are increasingly using seismic data to enhance production from known fields by repeating time-lapse seismic surveys over a defined area. We believe that this trend should benefit seismic companies such as ION by extending the utility of subsurface imaging beyond exploration and into production monitoring, which can continue for decades.

We believe that E&P companies will, in the future, increasingly use seismic technology providers who will collaborate with them to tailor seismic surveys that address specific geophysical problems and to apply advanced imaging technologies to take into account the geologic peculiarities of a specific area. In the future, we expect that E&P companies will rely less on undifferentiated, mass seismic studies created using analog sensors and traditional processing technologies that do not adequately identify geologic complexities.

### ***Becoming a Broad-Based Seismic Provider***

Two acquisitions in 2004—Concept Systems Holdings Limited (“Concept Systems”) and GX Technology Corporation (“GXT”)—were important in our evolution to becoming a broad-based seismic solutions company from primarily a seismic equipment provider. Concept Systems provided us our integrated planning, navigation, command & control, and data management software and solutions business for towed marine streamers and seabed operations. GXT provided us our advanced seismic data processing services and marine seismic data library business.

Through these and other acquisitions, along with our research and development efforts, we have broadened our offering to span the entire seismic workflow, which includes survey planning, 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. We currently do not own a fleet of boats or provide our own seismic crews to acquire marine or land surveys. Our strategy since 2004 has been to be an “asset light” seismic solutions company, focusing our capital on our people and technology.

In March 2010, we formed INOVA Geophysical, our joint venture with BGP. The scope of the joint venture’s business is to design, develop, engineer and manufacture land-based equipment used in seismic data acquisition for the petroleum industry, and to conduct related research and development, distribution, sales and marketing and field support operations.

A key part of the strategy behind the joint venture was to leverage our research and development experience and expertise with the operational experience and global expertise of BGP. The R&D centers for the joint venture have remained primarily in the U.S. and Canada, although INOVA Geophysical intends to evaluate lower-cost manufacturing opportunities in China and pursue these opportunities when appropriate. In addition, we and BGP intend that BGP’s geophysical crews will field test the joint venture’s new technology and related equipment for operational feedback and quality improvements. Finally, we expect, over time, that BGP will eventually purchase more of its land equipment from the joint venture and will purchase more ION services and products from our other business segments.

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, and to strive to develop and offer technology and services that enable us to work with the E&P companies to solve their challenges. 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 contractor customers to

assure that the right technologies are properly applied, is the most effective method for meeting our customers' needs. This strategy 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 approach globally through local personnel in our regional organizations who understand the unique challenges in their areas.

*Current Strategy*—While we anticipate continuing to grow and refine our seismic data equipment businesses in marine 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. This focus is consistent with our current asset-light strategy, whereby the majority of our investments will be devoted toward research and development and computing infrastructure for our data processing business, and in support of our GeoVentures multi-client projects. This focus better positions our company as a full-service technology company having increasing revenues coming from E&P company customers using our GXT data processing and GeoVentures services.

GeoVentures offers integrated design and management of proprietary and multi-client 2D and 3D surveys, from survey design and planning, to seismic data acquisition project management, advanced processing services and final image rendering. With GeoVentures, we outsource the physical field acquisition work to experienced seismic contractors, utilizing existing industry acquisition capacity while enabling us to focus on the most value-adding elements of the seismic process.

In this regard, we are currently concentrating on four key market sectors in our Solutions businesses:

- Challenging environments, such as the Arctic frontier: we have performed many successful surveys in the Arctic, and have returned to the North American Arctic region in 2012 for our seventh season of acquisition.
- Complex and hard-to-image geologies, such as deepwater subsurface salt formations in the Gulf of Mexico and offshore West Africa and Brazil: we believe that GXT's technologies are well-suited to meet the depth imaging challenges presented by these formations.
- Unconventional reservoirs, such as those found in shale, tight gas and oil sand formations: principally focusing on oil plays and the more economically viable gas portions of hydrocarbon plays; our 3D ResSCAN™ reservoir characterization programs feature unique measurement techniques.
- Basin exploration; our BasinSPAN™ programs are offshore basin-wide seismic data programs acquired and imaged using advanced geological and geophysical technology; these custom-designed programs provide E&P companies with valuable insights into the regional geologies of offshore frontier areas; commencing in 2002, this business has grown into a substantial data library that covers many of the frontier basins in the world, including offshore East and West Africa, India and Brazil, as well as in the Arctic and the deepwater Gulf of Mexico.

E&P companies continue to be interested in technology that will increase production and improve their understanding of targeted reservoirs, in both the exploration and production phases. We believe that our technologies, such as DigiFIN®, DigiSTREAMER™, Orca®, our WiBand™ data processing technology, and INOVA Geophysical's lower-cost cableless Hawk™ land system, improved FireFly® system (FireFly DR31) and a new cabled system (G3i™), will continue to attract interest because they are designed to deliver improvements in both image quality and productivity. For more information regarding our services and products, see “—Services and Products” below.

In summary, our business strategy is predicated on successfully executing six key imperatives:

- Expanding our Solutions services business in new regions with new customers and new land and marine service offerings, including proprietary services for E&P producers;

- Globalizing our Solutions data processing business by opening advanced imaging centers in strategic locations, and expanding our presence in the land seismic processing segment, with emphasis on serving national oil companies;
- Developing and introducing our next generation of marine towed streamer products, with a goal of developing markets beyond the new vessel market;
- Developing a next generation of seabed seismic data imaging technology using our VectorSeis® Ocean (“VSO”) seismic data acquisition system platform and derivative products to obtain technical and market leadership in what we continue to believe is a very important and expanding market;
- Managing our cost structure to reflect current market and economic conditions while keeping key strategic technology programs progressing; and
- Through our investment in INOVA Geophysical, (i) increasing market share and profitability in land data acquisition systems, as well as other land equipment technologies; and (ii) leveraging INOVA Geophysical’s land equipment business to design and deliver lower cost, more reliable land imaging systems to our worldwide customer base of land acquisition contractors, while at the same time, tapping into a broader set of global geophysical opportunities associated with the exploration, asset development, and production operations of BGP’s parent, CNPC.

## Services and Products

### *Solutions Services*

Our Solutions segment includes the following:

*GeoVentures*—Our GeoVentures services are designed to manage the entire seismic process, from survey planning and design to data acquisition and management, through pre-processing and final subsurface imaging. The GeoVentures services 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 geological contractors.

We offer our GeoVentures services to customers on both a proprietary and multi-client basis. On both bases, the customers pre-fund a majority of the data acquisition costs. With our proprietary service, 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 assume some of the processing costs but retain ownership of the marketing rights to the data and images and receive on-going license revenue from subsequent data license sales.

Since 2002, GeoVentures has acquired and processed a growing seismic data library consisting of non-exclusive marine and ocean bottom data from around the world. The majority of the data libraries licensed by GeoVentures consist of ultra-deep 2-D seismic survey data that E&P companies use to better evaluate the evolution of 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, the availability of geoscience data extends beyond seismic information to include magnetic, gravity, well log, and electromagnetic information, which help to provide a more comprehensive picture of the subsurface. Particular attention is made to ensure the data obtained can integrate with legacy 2D and 3D datasets. Known as “SPANS,” these geophysical data libraries currently exist for major offshore basins worldwide, including:

- the Gulf of Mexico,
- the Caribbean,



- off the north, east and west coasts of South America,
- off the east and west coasts of Africa,
- off the east and west coasts of India,
- the Arctic Ocean,
- offshore Australia, and
- offshore certain southeast Asian countries.

In 2012, we expanded our BasinSPAN library to add programs or expand programs, most significantly offshore Africa, Latin America, including Brazil and Uruguay, and the Arctic. In addition to our 2D multi-client programs, we initiated our first 3D marine proprietary program.

We have also begun to develop onshore reservoir imaging and characterization programs to provide E&P companies with the ability to better understand conventional and unconventional reservoirs. Known as “ResSCAN” programs, these 3D 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. By the end of 2012, we had five ResSCAN programs either complete or in progress across the Marcellus and Niobrara shale formation areas of the U.S. Other seismic programs are planned or under development for other regions of the world.

*Seismic Data Processing Services*—We believe that our GXT Imaging Solutions group is a leader in advanced land and marine seismic data processing services. E&P companies apply our solutions to produce high-quality subsurface images in marine, ocean bottom and land environments.

GXT offers processing and imaging services designed to help our E&P customers reduce exploration and production risk, appraise 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 (even onboard seismic vessels), such as data pre-conditioning for imaging and outsourced management, including quality control, of seismic data acquisition and image processing services.

GXT utilizes a globally distributed network of Linux-cluster processing centers throughout the world (including centers in North America, South America, Africa, Asia and Europe), scaled to local needs, which are combined with our major hub in Houston, to process seismic data by applying advanced proprietary algorithms and workflows that incorporate processing techniques such as illumination analysis, data conditioning and velocity modeling, and time and depth migration. These techniques help produce more detailed, higher-quality imaging of subsurface formations.

GXT pioneered pre-stack depth migration (“PreSDM”) technology, a processing technique involving the application of advanced, computer-intensive processing algorithms, which convert time-based seismic information to a geological depth basis. While pre-stack depth migration is not required for every imaging situation, it generally provides the most accurate subsurface images in areas of complex geology. Our Reverse Time Migration (“RTM”) technology was developed to improve imaging in areas where complex structural conditions or steeply dipping subsurface horizons have provided imaging challenges for oil and gas companies. Both PreSDM and RTM techniques have proved effective in their application to hard-to-image subsalt reservoirs in the Gulf of Mexico. In 2012, we introduced WiBand, a broadband processing technology designed to remove most of the ghost effects from conventional streamer data. This methodology, a combination of algorithms and workflows, uniquely tackles both the source and receiver ghosts to recover the full spectrum in data acquired using conventional towed streamers, delivering superior broadband images.



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

Our AXIS Geophysics group ("AXIS"), based in Denver, Colorado, focuses on advanced seismic data processing for stratigraphically complex onshore environments. Many hydrocarbon plays, including shale plays, are impacted by subsurface anisotropy which causes seismic velocities to vary according to source-receiver direction. AXIS has developed a proprietary data processing technique called AZIM™ that is designed to better account for the anisotropic effects of the Earth (i.e., the fact that the speed of the seismic waves does not just depend on the subsurface location but also on the direction that the seismic waves travel, or propagate), which tend to distort seismic images. AZIM is designed to correct for these anisotropic effects by producing higher resolution images in areas where the velocity of seismic waves varies with compass direction (or azimuth). The AZIM technique is used to analyze fracture patterns within reservoirs and is particularly suitable for analyzing the geologies in shale formations.

We believe that the application of ION's advanced processing technologies and imaging techniques can better identify complex hydrocarbon-bearing structures and deeper exploration prospects. We also believe that the combination of GXT's capabilities in advanced velocity model building and depth imaging, along with AXIS' capability in anisotropic imaging, provides an advanced toolkit for maximizing full-wave data measurements.

At December 31, 2012, 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 \$151.3 million compared with \$134.2 million at December 31, 2011, an increase of 13%. We anticipate that the majority of this backlog will be recognized as revenue over the first half of 2013.

### ***Systems Products***

Our Systems segment products include the following:

*Marine Acquisition Systems*—Our marine acquisition system consists of towed marine streamers and shipboard electronics that collect seismic data in water depths 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.

The market for seabed seismic imaging is growing. E&P companies are showing increased interest in seabed seismic activities, consistent with their demand for higher-quality seismic imaging for complex geological formations and more detailed reservoir characteristics. During 2004, we introduced our VSO system, an advanced system for seismic data acquisition using re-deployable ocean bottom cable. Since then, we have sold a total of five VSO ocean-bottom systems, all to Reservoir Exploration Technology, ASA ("RXT"), a Norwegian seismic contractor. During 2010, we announced the launch of VSO II, which offered significant enhancements over the initial VSO system. During 2012, we had sales of VSO II replacement equipment to RXT and its affiliated joint venture. We continue to develop our seabed technology and expect to commercialize our next-generation ocean-bottom system, Calypso™, in late 2013.

*Marine Positioning Systems*—Our 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. Since 2008, we have sold and delivered 37 DigiFIN systems, and have completed multiple DigiFIN vessel expansions. 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®), which 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 market a full suite of geophones and geophone test equipment that operate in most environments, including land, transition zone, and downhole. Our analog geophones are used in other industries as well.

### *Software Products and Services*

Through this segment, we supply command-and-control software systems and services for towed marine streamer and seabed operations. Software developed by our subsidiary, Concept Systems, is installed on towed streamer marine vessels worldwide and is a component of many re-deployable and permanent seabed monitoring systems. 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 QC systems data management and control into a seamless platform. Orca has made significant inroads into the towed streamer market and, together with legacy Spectra® installations, Concept Systems continued to maintain its leadership position in the towed streamer command and control software market in 2012, despite a period of low expansion in the vessel market. New modules for the efficient optimization of the acquisition for surveys were included in the latest release, with most clients taking the option as standard. For more complex surveys, Orca has even been installed by clients on a job-by-job basis, as required. Spectra is Concept Systems’ predecessor to Orca. Sprint® processing software continues to be utilized in the market with a new platform IRIS™, to be released during 2013. Five of the seven known new-builds for 2013 to 2015 have already committed to Orca systems, and Concept continues to work in collaboration with the major seismic players to develop new techniques, enabling the market to expand its technological ambitions.

*Seabed Imaging*—Concept Systems’ now offers the Gator® II product, which improves upon its former Gator® offering. This is an integrated navigation and data management software system for multi-vessel ocean bottom cable and transition zone (such as marshlands) operations, with a new software platform to enhance and simplify the user experience. The Gator system is designed to provide real-time, multi-vessel positioning and data management solutions for ocean-bottom, shallow-water, and transition zone crews. Gator II command and control software is designed to meet the unique challenges of distributed, multi-vessel seabed, transition zone, and electromagnetic data acquisition. The system is extremely flexible and scalable to configure and control single vessel operations to highly complex surveys spanning multiple vessels and acquisition systems. New radio solutions and rugged waterproof timing interfaces have been introduced to further aid the operation of these complex operations.

*Survey Design, Planning and Optimization*—Concept Systems offers consulting services for planning, designing and supervising complex surveys, including 4D and WATS (Wide Azimuth Towed Streamer) survey operations. Concept Systems' acquisition expertise and in-field software platforms and development capability are designed to allow their clients, including oil companies and seismic 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, and a technology planning tool called Optimiser™.

### ***INOVA Geophysical Products***

Products of INOVA Geophysical include the following:

*Land Acquisition Systems*—INOVA now provides two offerings for cableless land acquisition, FireFly and Hawk. By removing the constraints of cables, geophysicists can custom-design surveys for multiple subsurface targets and increase receiver station density to more fully sample the subsurface. Cableless systems enable contractors to efficiently operate in challenging, culturally-intensive environments. Other benefits include a decrease in system weight and, we believe, superior operational efficiencies, reduction in operational troubleshooting time and better defined sampled seismic data.

FireFly is INOVA's radio-based cableless system. It allows for a central location to communicate with the field units via radio and receive information back from the field units. This communication link allows for management of the equipment on the ground by relaying commands that respond to operational variables. It also provides valuable quality control information from the field as to the status of the equipment and geophysical attributes. In 2011, INOVA Geophysical introduced its improved FireFly DR31 system, providing increased ruggedness and protection through an aluminum enclosure, reduced power consumption and support for 3-channel analog or VectorSeis digital sensors within the same field electronics.

In 2011, INOVA Geophysical released its Hawk SN11 autonomous node cableless system. Hawk is a lower-priced version of FireFly that provides a wireless platform without radio infrastructure. Given its simpler infrastructure, it consumes less power in turn increasing battery life. The straight forward infrastructure is ideal for swift operations or as a complement to cable-based or FireFly systems. Hawk allows for the use of analog geophones as well as VectorSeis digital sensors.

VectorSeis is INOVA's digital multicomponent sensor and it can be used with all of its recording systems. In 2011, the VectorSeis ML21 was introduced with reinforced mechanical housing improved seal structure and lower power consumption. In 2012, INOVA Geophysical released the VectorSeis MT21 that has the versatility to be used in marsh applications. Since 1999, VectorSeis full-wave technology has been used to acquire seismic data all over the world.

INOVA Geophysical cable-based land acquisition systems, Scorpion®, ARIES® and G3i, consist of a central recording unit and multiple remote ground equipment modules that are connected by cable. The central recording unit is in a transportable enclosure that serves as the control center of each system and is typically mounted within a vehicle. The central recording unit receives digitized data, stores the data on storage media for subsequent processing and displays the data on optional monitoring devices. It also provides calibration, status and test functionality. The remote ground equipment consists of multiple remote modules and line taps positioned over the survey area. Seismic data is collected by analog geophones or VectorSeis digital sensors.

In 2012, INOVA Geophysical released the G3i cable-based recording system. G3i supports over 100,000 channels and can be used to capture 2D, high density 3D and time-lapse 4D data.

The electronics of G3i's Remote Acquisition Module ("RAM"), Fiber Tap Unit ("FTU") and Power Supply Unit ("PSU") are enclosed in a light weight, aluminum housing for extended durability and protection in harsh operating environments. G3i's power-down-the line technology distributes battery power to multiple RAM stations using the PSU and FTU, reducing the need for additional batteries on the spread and simplifying power management and logistics. G3i offers high productivity vibroseis capabilities to allow operators to obtain higher productivity levels than traditional vibroseis methods by recording more source points per hour and completing surveys faster. The G3i system is designed to help E&P companies and seismic contractors overcome their operational challenges while conducting the simplest or the most demanding acquisition projects.

INOVA Geophysical ARIES product line was originally acquired in connection with our acquisition of ARAM Systems Ltd. in September 2008. The product line consists of analog cable-based land acquisition systems and related peripherals and equipment. ARIES land system products include remote acquisition modules ("RAMs"), which acquire seismic data from the sensors and transmit the data digitally to the central processing equipment. Line tap units interconnect baseline cables from the recording equipment to multiple receiver lines and function to retransmit data from the RAMs to central recording equipment. ARIES products also include system batteries, central recording equipment, and baseline cables that connect the central recording equipment with the taps and receiver line cables.

The latest version of ARIES—the ARIES II® land recording system—features a 24-bit system architecture that is designed to dramatically improve channel capacity, ensure efficient equipment deployment, and maximize system performance. It is also enabled to work with analog geophones and VectorSeis digital sensors and provides continuous recording functionality for microseismic and high productivity vibroseis operations. ARIES II supports high channel count, source-driven, high productivity vibroseis acquisition.

The Scorpion system is also capable of recording digital multicomponent seismic data, as well as analog data. Digital sensors can provide increased response linearity and bandwidth, which translate into higher resolution images of the subsurface. In addition, one digital sensor can replace a string of six or more analog geophones, providing users with equipment weight reduction and improved operating efficiencies.

*Source Products*—Vibrators are devices carried by large vehicles and, along with dynamite, are used as energy sources for land seismic acquisition. INOVA Geophysical markets and sells the AHV-IV™, a line of articulated tire-based vibrator vehicles, and a tracked vibrator, the XVib®, for use in environmentally sensitive areas such as the Arctic tundra and desert environments. During 2011, INOVA launched the UNIVIB™, a smaller vibrator with up to 26,000 lb peak force that allows easier mobility in environmentally restricted or heavily urbanized areas. INOVA Geophysical also released its Connex™ Vib 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, released in 2007, is the equivalent technology for seismic operations using dynamite energy sources.

## **Product Research and Development**

Our research and development efforts have continued to remain focused on improving the quality of the subsurface image and seismic data acquisition economics for our customers. Additionally, we have also focused on improving the type and quality of the information that can be extracted from the subsurface images. Our ability to compete effectively in the manufacture and sale of seismic equipment

and data acquisition systems, as well as related processing services, depends principally upon continued technological innovation. Development cycles of most products, from initial conception through commercial introduction, may extend over several years.

During 2012, our product development efforts continued across selective business lines aimed at the development of strategic key technologies and products. A large part of our research and development efforts in 2012 were focused on development of our new Calypso re-deployable seabed acquisition system and our other marine technologies. In our data processing business, we are investing in continued improvements in productivity and in enhancing our applications to handle increasingly complex data acquisition environments and difficult-to-image geology. We have also invested in the development of a new processing based broadband marine seismic solution, WiBand, which we introduced at the 2012 European Association of Geoscientists & Engineers (EAGE) conference and exhibition. In addition, we have invested in research and development on the value of Full Wave data in extracting new and more accurate information of the subsurface with special emphasis on its application to shale plays and marine seabed acquisition.

Because many of these new services and products are under development, their commercial feasibility or degree of commercial acceptance is not yet 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**

Based on historical revenues, we believe that we are a market leader in seismic data acquisition in the Arctic and in numerous product lines, including full-wave sensors based upon micro-electro magnetic systems (“MEMS”), 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 and multi-client seismic data libraries from our GeoVentures group, 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. For each of 2012, 2011 and 2010, no single customer accounted for 10% or more of our consolidated annual net revenues.

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 2012, 2011 and 2010, sales to destinations outside of North America accounted for approximately 69%, 66% and 60% 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 of *Notes to Consolidated Financial Statements*.



## **Manufacturing Outsourcing and Suppliers**

Since 2003, we have increased the use of contract manufacturers in our Systems segment as an alternative to manufacturing our own products. We have outsourced the manufacturing of our towed marine streamers, our re-deployable ocean bottom cables and various components of our VSO seabed system. We may experience supply interruptions, cost escalations, and competitive disadvantages if we do not monitor these relationships properly.

## **Competition**

The GXT Imaging Solutions 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, 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, Compagnie General de Geophysique Veritas (“CGGVeritas”) 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 larger than ION in terms of revenues, number of processing locations, and sales, marketing and financial resources. In addition, both CGGVeritas 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. The GXT Imaging Solutions group also competes with companies that are capable of performing data processing services via internal resources. These companies, along with another competitor, TGS-Nopec, also develop and sell data libraries that compete with ION’s 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 land and marine seismic equipment is Societe d’Etudes Recherches et Construction Electroniques (“Sercel”), an affiliate of the French seismic contractor, CGGVeritas. 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.

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 ION’s technology for marine streamer, seabed, 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 ION acquisition equipment products.

In addition, over the last several years, we have seen both new-build and consolidation activity within the marine towed streamer segment, which could impact our business results in the future. 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 24, to approximately 150 in 2016,



keeping net projections steady compared to December 31, 2011. We understand that 23 out of these estimated 24 vessels will be outfitted to perform 3-D seismic survey work. In addition, there has been an increase in acquisition activity within the sector, with the major vessel operators—CGGVeritas, WesternGeco, and Petroleum Geo-Services ASA (“PGS”)—all moving to acquire new market entrants in the last several years. In 2012, CGGVeritas announced the acquisition of Fugro’s geoscience division. This acquisition resulted in 75% of the high-end 3D seismic capacity being concentrated among the largest three companies—CGGVeritas, WesternGeco & PGS. Those three companies are, more and more, 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 project support to ensure operations run cost-effectively.

## **Intellectual Property**

We rely on a combination of patents, copyrights, trademark, trade secrets, confidentiality procedures, and contractual provisions to protect our proprietary 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 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. 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. No material liabilities have resulted from these third party claims to date. For more information on current litigation related to the Company’s intellectual property, see 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 “VectorSeis,” “FireFly,” “ARIES,” “ARIES II,” “DigiSHOT,” “DigiFIN,” “XVib,” “DigiCOURSE,” “Gator,” “Gator II” “Spectra,” “Orca,” “Sprint,” “Scorpion,” and “Reflex” refer to VECTORSEIS®, FIREFLY®, ARIES®, ARIES II®, DIGISHOT®, DIGIFIN®, XVIB®, DIGICOURSE®, GATOR®, GATOR® II, SPECTRA®, ORCA®, SPRINT®, SCORPION®, and REFLEX® registered marks owned by ION or INOVA Geophysical, and the terms “AZIM,” “BasinSPAN,” “DigiSTREAMER,” “AHV-IV,” “Vib Pro,” “Shot Pro,” “GeoVentures,” “Optimiser,” “ResSCAN,” “Hawk,” “UNIVIB,” “G3i,” “Calypso,” “Connex” and “WiBand” refer to AZIM™, BasinSPAN™, DigiSTREAMER™, AHV-IV™, Vib Pro™, Shot Pro™, GeoVentures™, Optimiser™, ResSCAN™, Hawk™, UNIVIB™, G3i™, Calypso™, Connex™ and WiBand™ 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 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 will have a material adverse effect on our business or results of operations, and we do not currently foresee the need for significant expenditures to ensure our continued compliance 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.

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 (“BOEMRE”). 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 BOEMRE has 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 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. Hydraulic fracturing typically is regulated by state oil and natural gas commissions, but the U.S. Environmental Protection Agency (the “EPA”) has asserted federal regulatory authority under the Safe Drinking Water Act over certain hydraulic fracturing. In addition, legislation has been introduced before Congress to provide for federal regulation of hydraulic fracturing under the Safe Drinking Water Act and to require disclosure of the chemicals used in the hydraulic fracturing process. Several states are also considering implementing, and some states have implemented, 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. Certain governmental reviews are either underway or being proposed that focus on environmental aspects 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. Other governmental agencies, including the U.S. Department of Energy and the U.S. Department of the Interior, are evaluating various other aspects of hydraulic fracturing. 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, 2012, we had 1,071 regular, full-time employees, 698 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 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 of *Notes to Consolidated Financial Statements*.

### **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,” “expect,” “plan,” “anticipate,” “believe,” “estimate,” “predict,” “potential,” or “continue” or the negative of such terms or other comparable terminology. Examples of other forward-looking statements contained or incorporated by reference in this report include statements regarding:

- the expected outcome of litigation and other claims against us (see Item 3—“*Legal Proceedings*” below);
- any future potential adverse effects on our liquidity from our being required to post an appeal bond in the WesternGeco litigation referred to in Item 3—“*Legal Proceedings*” in the event that we are subject to a significant adverse judgment in the matter;
- the effects of current and future worldwide economic conditions and demand for oil and natural gas and seismic equipment and services;
- the effects of current and future unrest in the Middle East, North Africa and other regions;
- the effects of consolidation and vertical integration in the towed marine seismic streamers market;
- future benefits to be derived from our INOVA Geophysical joint venture;
- future increases of capital expenditures for seismic activities;
- the timing of anticipated sales and associated realized revenues;
- future levels of spending by our customers;
- the timing of future revenue realization of anticipated orders for seismic data processing work in our Solutions segment;
- future oil and gas commodity prices;
- future effects resulting from the April 2010 Deepwater Horizon incident, and any further slowdown in E&P activities in the Gulf of Mexico;
- expected net revenues, income from operations and net income;
- expected improved revenues from data processing services in our Solutions segment;
- expected gross margins for our services and products;
- future demand for seismic equipment and services;
- future benefits to our customers to be derived from new services and products;
- future benefits to be derived from our investments in technologies and acquired companies;
- future growth rates for our services and products;
- the degree and rate of future market acceptance of our new services and products;
- our expectations regarding oil and gas exploration and production companies and contractor end-users purchasing our more technologically-advanced services and products;
- anticipated timing and success of commercialization and capabilities of services and products under development and start-up costs associated with their development;
- future cash needs and future availability of cash to fund our operations and pay our obligations;
- potential future acquisitions;
- future levels of capital expenditures;

- our ability to maintain our costs at consistent percentages of our revenues in the future;
- future seismic industry fundamentals;
- future opportunities for new products and projected research and development expenses;
- future success in integrating acquired businesses;
- future compliance with our debt financial covenants;
- expectations regarding realization of deferred tax assets; and
- anticipated results regarding accounting estimates we make.

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 could have a material adverse effect on our financial results and liquidity.***

In August 2012, a jury in the *WesternGeco L.L.C. v. ION Geophysical Corporation* litigation (see Item 3. “*Legal Proceedings*” below) returned a verdict of approximately \$105.9 million in damages against us. As of the date of this filing, the federal district trial court had not entered its judgment in the matter. Because the jury concluded that our infringement was willful, the trial court judge will determine, in his independent judgment, whether we willfully infringed and he should declare this case to be “exceptional.” In order for the judge to find willful infringement and declare this case exceptional, WesternGeco must prove, by clear and convincing evidence, that we acted with objective recklessness and in bad faith, fraudulently or engaged in similar misconduct related to the case. If the judge finds willful infringement and declares this case to be exceptional, the judge has the discretion, but not the obligation, to enhance the damages amount, not to exceed a trebling of the final judgment damages award plus reasonable attorneys’ fees. We believe that, given our understanding and analysis of applicable law and the relevant facts and evidence in this case, and after considering the advice of counsel, it is unlikely that we will incur any additional loss as a result of the jury’s finding of willfulness. We also believe that the verdict is inconsistent with applicable law and the facts or evidence in the case, and we have filed motions with the trial court to overturn all or portions of the verdict. If the trial court enters a judgment that is adverse to us, we would continue to defend this matter vigorously and would intend to appeal the judgment to the United States Court of Appeals for the Federal Circuit.

In order to appeal the judgment, we may be required to post an appeal bond for the full amount of damages entered in the judgment. To post and collateralize a bond of that size, or if we become subject to a significant adverse judgment in this lawsuit, 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. The posting and collateralization of such an appeal bond could have a possible adverse effect on our liquidity. If we are unable to post the appeal bond, we may be unable to stay enforcement of the judgment or appeal the case. At this time, we are unable to determine whether an appeal bond would be required or the amount of such an appeal bond. Similarly, we are unable to predict the timing of the final judgment being entered by the trial court or the timing of posting any required appeal bond.

No assurances can be made whether our efforts to raise additional cash would be successful, and if so, whether the terms of such financings would be on favorable terms to us and our stockholders. 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 those that holders of our current debt or equity securities currently have, and the terms of these securities could impose restrictions on our operations. If we are unable to raise additional capital under these circumstances, our business, operating results and financial condition may be harmed.

If our efforts 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, financial condition, results of operations and cash flows.

*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 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.

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 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.

***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, number of processing locations and sales and marketing resources. A few of our competitors have a competitive advantage in being part of an 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 do not, 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.

***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 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.*"

***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 company and BGP 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 have operated independently. This has been 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), may 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 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. 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 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 credit facility, INOVA Geophysical provides a bank stand-by letter of credit as credit support for our obligations under the credit 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 (including incorporating BGP's land seismic equipment with our land seismic imaging product lines that we contributed to the joint venture), 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 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;
- 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;
- we currently own 49% of the total equity interests in INOVA Geophysical, so 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;
- joint venture profits and cash flows may prove inadequate to fund cash dividends 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 affecting ION. 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.

***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 69%, 66% and 60% of our consolidated net revenues for 2012, 2011 and 2010, 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 deem to sponsor 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 receivables;
- enactment of additional or stricter U.S. government or international sanctions;
- limitation of our access to markets for periods of time;
- expropriation and nationalization of assets of our company or those of our customers;
- political and economic instability, which may include armed conflict and civil disturbance;
- currency fluctuations, devaluations, and conversion restrictions;
- confiscatory taxation or other adverse tax policies; and
- governmental actions that may result in the deprivation of our contractual rights.

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

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

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

Services and products for the seismic 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.

***We invest significant sums of money in acquiring and processing seismic data for our Solutions' multi-client data library.***

We invest significant amounts in acquiring and processing new seismic data to add to our Solutions' multi-client data library. A majority of these investments are funded by our customers, while the remainder is recovered through future data licensing fees. In 2012, we invested approximately \$146 million in our multi-client data library. Our customers generally commit to licensing the data prior to our initiating a new data library acquisition program. However, the aggregate amounts of future licensing fees for this data are uncertain and depend on a variety of factors, including the market prices of oil and gas, customer demand for seismic data in the library, and the availability of similar data from competitors.

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

- We may not fully recover our costs of acquiring and processing seismic data through future sales. The ultimate amounts involved in these data sales are uncertain and depend on a variety of factors, many of which are beyond our control.
- The timing of these sales is unpredictable and can vary greatly from period to period. The costs of each survey are capitalized and then amortized as a percentage of sales and/or over the expected useful life of the data. This amortization will affect our earnings and, when combined with the sporadic nature of sales, will result in increased earnings volatility.
- Regulatory changes that affect companies' ability to drill, either generally or in a specific location where we have acquired seismic data, could materially adversely affect the value of the seismic data contained in our library. Technology changes could also make existing data sets obsolete. Additionally, each of our individual surveys has a limited book life based on its location and oil and gas companies' interest in prospecting for reserves in such location, so a particular survey may be subject to a significant decline in value beyond our initial estimates.
- The value of our multi-client data could be significantly adversely affected if any material adverse change occurs in the general prospects for oil and gas exploration, development and production activities.

- The cost estimates upon which we base our pre-commitments of funding could be wrong. The result could be losses that have a material adverse effect on our financial condition and results of operations. These pre-commitments of funding are subject to the creditworthiness of our clients. In the event that a client refuses or is unable to pay its commitment, we could incur a substantial loss on that project.
- As part of our asset-light strategy, we routinely charter vessels from third-party vendors to acquire seismic data for our multi-client business. As a result, our cost to acquire our multi-client data could significantly increase if vessel charter prices rise materially.

Any reduction in the market value of such data will require us to write down its recorded value, which could have a significant material adverse effect on our results of operations.

***Global economic conditions, credit market uncertainties and lower natural gas prices 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 and lower prices for natural gas on a worldwide basis, which reduced the levels of exploration for 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 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 operating results may fluctuate from period to period, and we are subject to seasonality factors.***

Our operating results are subject to fluctuations from period to period as a result of new product or service introductions, the timing of significant expenses in connection with customer orders, unrealized sales, levels of research and development activities in different periods, the product mix sold, and the seasonality of our business. Because many of our products feature a high sales price and are technologically complex, we generally have experienced long sales cycles for these 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 from our sales 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. Fluctuations in our quarterly operating results may cause greater volatility in the market price of our common stock.

***The loss of any significant customer could materially and adversely affect our results of operations and financial condition.***

We have traditionally relied on a relatively small number of significant customers. Consequently, our business is exposed to the risks related to customer concentration. No single customer represented 10% or more of our consolidated net revenues for 2012, 2011 and 2010; however, our top five customers in total represented approximately 28%, 30% and 28%, 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 September 2012, CGGVeritas announced that it had agreed to acquire Fugro's geoscience division; the transaction was closed in January 2013. This acquisition represents 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 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;
- 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.

***The drilling moratorium in the U.S. Gulf of Mexico and the other regulatory initiatives undertaken in response to the Deepwater Horizon disaster and resulting oil spill in the U.S. Gulf of Mexico, has adversely affected, and could adversely affect in the future, our customers and our business.***

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 Minerals Management Service (now known as the BOEMRE) of the U.S. Department of the Interior issued a notice in May 2010 implementing a six-month moratorium on certain drilling activities in the U.S. Gulf of Mexico. The moratorium was lifted in October 2010, but the BOEMRE has issued and is 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, reducing the level of E&P activity there. The reduced level of activity 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.

See “—Our operations, and the operations of our customers, are subject to numerous government regulations, which could adversely limit our operating flexibility” below.

***Our stock price has been volatile from time to time, declining precipitously from time to time during the period from 2008 through 2011, 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;
- 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 increases in our leverage may make it more difficult for us to access additional capital. These factors may limit our ability to implement our operating and growth plans.

***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. Additionally, our outstanding shares of Series D Preferred Stock are convertible into shares of our common stock. The conversion of the Series D Preferred Stock and 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 conversion or 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 12, 2013, we had 156,390,699 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 12, 2013, we had outstanding stock options to purchase up to 7,860,850 shares of our common stock at a weighted average exercise price of \$7.22 per share. We also had, as of that date, 1,026,449 shares of common stock reserved for issuance under outstanding restricted stock and restricted stock unit awards.

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.

As of February 12, 2013, there were 27,000 shares of our Series D Cumulative Convertible Preferred Stock outstanding. In June 2012, the previous holder of these shares, Fletcher International, Ltd. (“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. The shares of our Series D Preferred Stock are currently convertible into 6,065,075 shares of our common stock. A conversion of our outstanding shares of Series D Preferred Stock into shares of our common stock will dilute the ownership interests of existing stockholders. Sales in the public market of shares of common stock issued upon conversion would likely apply downward pressure on prevailing market prices of our common stock.

The conversion price of our outstanding Series D Preferred Stock is also subject to certain customary anti-dilution adjustments. For additional information regarding the terms of our Series D Preferred Stock, see Note 12 “—*Cumulative Convertible Preferred Stock*” of *Notes to Consolidated Financial Statements* contained elsewhere in this Form 10-K. We currently have ongoing litigation with Fletcher in Delaware regarding certain issues concerning our Series D Preferred Stock. For more information regarding our litigation with Fletcher, see Item 3. “*Legal Proceedings*.”

Shares of our common stock are also subject to certain demand and piggyback registration rights held by Laitram, L.L.C., and 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.

***Goodwill and intangible assets that we have recorded in connection with our acquisitions are subject to impairment evaluations and, as a result, we could be required to write-off additional goodwill and intangible assets, which may adversely affect our financial condition and results of operations.***

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

to the extent that the fair value of these assets within the reporting units is less than their carrying value. In 2008, we recorded an impairment charge of \$252.2 million related to our goodwill and intangible assets and in 2009 we recorded an impairment charge of \$38.0 million related to our intangible assets. Any further reduction in or 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, 2012, our goodwill and other intangible asset balances were \$55.3 million and \$14.8 million, respectively.

***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.

***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 92,000 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.***

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 result in the need to modify products, 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.



***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. Hydraulic fracturing typically is regulated by state oil and natural gas commissions, but the EPA has asserted federal regulatory authority under the Safe Drinking Water Act over certain hydraulic fracturing activities. In addition, legislation has been introduced before Congress to provide for federal regulation of hydraulic fracturing under the Safe Drinking Water Act and to require disclosure of the chemicals used in the hydraulic fracturing process. In addition, some states have implemented, and several states 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. Moreover, the EPA is developing

effluent limitations for the treatment and discharge of wastewater resulting from hydraulic fracturing activities and plans to propose these standards by 2014. Other governmental agencies, including the U.S. Department of Energy and the U.S. Department of the Interior, are evaluating various other aspects of hydraulic fracturing. These ongoing or proposed studies, depending on their degree of pursuit and any meaningful results obtained, could spur initiatives to further regulate hydraulic fracturing under the federal Safe Drinking Water Act or other regulatory mechanisms.

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, our redeployable ocean bottom cables, MEMS components, and various components of VectorSeis Ocean. 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, the terms of our Series D Preferred Stock 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, the terms of our Series D Preferred Stock and 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;
- 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; and
- requiring an acquiring party to assume all of our obligations under our agreement regarding our Series D Preferred Stock and the terms of the Series D Preferred Stock set forth in our certificates of rights and designations for those series, including the dividend, liquidation, conversion, voting and share registration provisions.

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

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

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

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

**Item 1B. Unresolved Staff Comments**

None.

## Item 2. *Properties*

Our principal operating facilities at December 31, 2012 were as follows:

<u>Operating Facilities</u>	<u>Square Footage</u>	<u>Segment</u>
Houston, Texas . . . . .	185,000	Global Headquarters and Solutions
Harahan, Louisiana . . . . .	92,000	Systems
Lacombe, Louisiana . . . . .	87,000	Systems
Stafford, Texas . . . . .	41,000	Systems
St. Rose, Louisiana . . . . .	38,000	Systems
Denver, Colorado . . . . .	27,000	Solutions
Voorschoten, The Netherlands . . . . .	27,000	Systems
Edinburgh, Scotland . . . . .	16,000	Software
Calgary, Canada . . . . .	4,000	Solutions
Jebel Ali, Dubai, United Arab Emirates . . . . .	2,000	International Sales Headquarters
	<u>519,000</u>	

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 18 of *Notes to Consolidated Financial Statements*.

In addition, we lease offices in Cranleigh, England; Aberdeen, Scotland; Beijing, China; and Moscow, Russia to support our global sales force. We also 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; and Oklahoma City, Oklahoma. 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 2009, we filed an answer and counterclaims against WesternGeco, in which we denied that we had infringed WesternGeco’s patents and asserted that the WesternGeco patents were invalid or unenforceable. We also asserted that WesternGeco’s Q-Marine system, components and technology infringed upon our United States patent related to marine seismic streamer steering devices. In addition, we claimed that the lawsuit by WesternGeco was an illegal attempt by WesternGeco to control and restrict competition in the market for marine seismic surveys performed using laterally steerable streamers. In our counterclaims, we requested various remedies and relief, including a declaration that the WesternGeco patents were invalid or unenforceable, an injunction prohibiting WesternGeco from making, using, selling, offering for sale or supplying any infringing products in the United States, a declaration that the WesternGeco patents should be co-owned by us, and an award of unspecified monetary damages.

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 February 2012, the Court granted WesternGeco’s motions for summary judgment, dismissing our claims as plaintiff against WesternGeco for infringement, inventorship and inequitable conduct. 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.

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 awarding WesternGeco the sum of \$105.9 million in damages, consisting of \$12.5 million in reasonable royalty and \$93.4 million in lost profits. We believe that the verdict is not consistent with applicable law or the facts or evidence in the case and, in September 2012, filed motions with the trial court to overturn all or portions of the verdict.

The ultimate outcome of the case in the trial court, and the content of the final judgment as a whole, rest with the presiding trial court judge, not the jury. The next step in the case is for the trial court judge to decide post-verdict motions filed by the parties and enter a judgment. The final judgment will determine the result of the trial prior to appeal. When he enters a judgment in the case, the judge can choose to follow the jury verdict or to take other actions, such as changing to a different result or ordering an entirely new trial. As of the filing date of this Annual Report on Form 10-K, the Court had not yet entered a judgment in the case.

If the Court enters a judgment that is adverse to us, 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.

In rendering its verdict, the jury determined that our infringement was willful. Because the jury verdict indicated willfulness, the trial court judge will determine whether, in his independent judgment, we willfully infringed and he should declare this case to be “exceptional.” In order for the judge to find willful infringement and declare this case exceptional, WesternGeco must prove, by clear and convincing evidence, that we acted with objective recklessness and in bad faith, fraudulently or engaged in similar misconduct related to the case. If the judge finds willful infringement and declares this case to be exceptional, the judge has the discretion, but not the obligation, to enhance the damages amount, not to exceed a trebling of the final judgment damages award plus reasonable attorneys’ fees. We believe that, given our understanding and judgment of applicable law and the relevant facts and evidence in this case, and after considering the advice of counsel, it is unlikely that we will incur any additional loss as a result of the jury’s finding of willfulness.

Based on our understanding and judgment of relevant law and the facts and merits of this case, including appellate defenses, and after considering the advice of counsel, we have determined it is probable that, after exhaustion of all appeals, this lawsuit will result in a loss contingency to us in the



amount of approximately \$10 million, consisting of reasonable royalty damages, interest and court costs. We have adequately reserved for this loss contingency.

It is reasonably possible that we may not ultimately prevail in the litigation and appeals process and that our loss related to the lawsuit could exceed the amount currently accrued, up to the amount of the damages in the jury verdict plus interest and court costs, or even higher if the Court decides to enhance the damages as described above. However, we do not believe that a loss of this magnitude is probable. 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 re-assessment 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 financial condition or results of operations.

As stated above, we intend to appeal the judgment to the United States Court of Appeals for the Federal Circuit if the trial court enters a judgment adverse to us. In order to appeal the judgment, we may be required to post an appeal bond for the full amount of damages entered in the judgment. In order to post and collateralize a bond of that size, we might need to utilize a combination of cash on hand, undrawn balances available under the revolving line of credit and possibly incur additional debt and/or equity financing. The posting and collateralization of such an appeal bond could have a possible adverse effect on our liquidity. If we are unable to post the appeal bond, we may be unable to stay enforcement of the judgment or appeal the case. At this time, we are unable to determine whether an appeal bond would be required or the amount of such an appeal bond. Similarly, we are unable to predict the timing of the final judgment being entered by the trial court or the timing of posting any required appeal bond.

#### *Fletcher*

In November 2009, Fletcher International Ltd. (“Fletcher”), the holder of the shares of our outstanding 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) a Canadian subsidiary of ours 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 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 promissory notes executed and delivered by the Canadian subsidiary in September 2008 in connection with our purchase of ARAM Systems Ltd., but that 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 that we had violated Fletcher’s consent right by the subsidiary’s executing and delivering the replacement promissory note without Fletcher’s consent.

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 the affiliate of D.E. Shaw & Co., Inc. in June 2012. We do not believe that the acquisition of the shares by an affiliate of D. E. Shaw & Co., Inc. or the bankruptcy filing by Fletcher will have a material impact on Fletcher's lawsuit against us.

We believe that the monetary damages suffered by Fletcher as a result of our subsidiaries executing and delivering the convertible note and the replacement note without Fletcher's consent are nonexistent or nominal, and that the ultimate outcome of the lawsuit will not result in a material adverse effect on our financial condition or results of operations.

### *Sercel*

In January 2010, the jury in a patent infringement lawsuit filed by us against seismic equipment provider Sercel, Inc. in the United States District Court for the Eastern District of Texas returned a verdict in our favor. In the lawsuit, styled *Input/Output, Inc. et al v. Sercel, Inc.*, (5-06-cv-00236), we alleged that Sercel's 408, 428 and SeaRay digital seismic sensor units infringe our United States Patent No. 5,852,242, which is incorporated in our VectorSeis sensor technology. Products of our company or INOVA Geophysical that are compatible with the VectorSeis technology include Scorpion, ARIES II, FireFly, Hawk and VectorSeis Ocean seismic acquisition systems. The jury concluded that Sercel infringed our patent and that our patent was valid, and the jury awarded us \$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 our motion for a permanent injunction to be issued prohibiting the manufacture, use or sale of the infringing Sercel products, (b) confirmed that our 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 that were based on infringing products that were manufactured and delivered by Sercel outside of the United States, but were offered for sale by Sercel in the United States and involved underlying orders and payments received by Sercel in the United States. In addition, the judge concluded that the evidence supporting the jury's finding that we were 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, we were entitled to be awarded an additional amount of damages equal to a reasonable royalty on the infringing pre-verdict Sercel marine sales. After we learned that Sercel continued to make sales of infringing products after the January 2010 jury verdict was rendered, we filed motions with the court to seek additional compensatory damages for the post-verdict infringing sales and enhanced damages as a result of the willful nature of Sercel's post-verdict infringement. In February 2011, the Court entered a final judgment and permanent injunction in the case. The final judgment awarded us \$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. Each of the parties appealed portions of the final judgment, and on February 17, 2012, the appellate court upheld the final judgment. In April 2012, Sercel paid us \$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 post-verdict infringing sales would be determined in a separate proceeding to be conducted in the future. In December 2012, we and Sercel settled all remaining claims in exchange for \$19.0 million and an agreement by Sercel to pay us royalties on future sales.

### *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.

## **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.

<u>Period</u>	<u>Price Range</u>	
	<u>High</u>	<u>Low</u>
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
Year ended December 31, 2011:		
Fourth Quarter .....	\$ 8.24	\$4.20
Third Quarter .....	11.16	4.57
Second Quarter .....	13.92	8.07
First Quarter .....	13.20	7.77

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.

On December 31, 2012, there were 804 holders of record of our common stock.

During the three months ended December 31, 2012, 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, 2012 to October 31, 2012 .	—	\$ —	Not applicable	Not applicable
November 1, 2012 to November 30, 2012 . . . . .	—	\$ —	Not applicable	Not applicable
December 1, 2012 to December 31, 2012 . . . . .	81,622	\$5.97	Not applicable	Not applicable
Total . . . . .	<u>81,622</u>	<u>\$5.97</u>		

**Item 6. Selected Financial Data**

The selected consolidated financial data set forth below with respect to our consolidated statements of operations for 2012, 2011, 2010, 2009 and 2008, and with respect to our consolidated balance sheets at December 31, 2012, 2011, 2010, 2009 and 2008 have been derived from our audited consolidated financial statements.

Our results of operations and financial condition have been affected by legal settlements, dispositions, debt refinancings and impairments 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 2008 - 2012 time period were impacted by the following items (before tax):

	Years Ended December 31,				
	2012	2011	2010	2009	2008
	(In thousands)				
Operating expenses:					
Impairment of goodwill and intangible assets .	\$ —	\$ —	\$ —	\$(38,044)	\$(252,283)
Interest expense:					
Write-down of deferred financing charges, including amortization of non-cash debt discounts . . . . .	—	—	(18,777)	(6,732)	—
Other income (expense):					
Gain on legal settlements, net . . . . .	20,895	—	24,500	—	—
Equity in earnings (losses) of INOVA					
Geophysical . . . . .	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)	—
Beneficial conversion charge associated with our outstanding convertible preferred stock . . . . .	—	—	—	—	(68,786)

This information 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.

	Years Ended December 31,				
	2012	2011	2010	2009	2008
	(In thousands, except for per share data)				
<b>Statement of Operations Data:</b>					
Net revenues . . . . .	\$526,317	\$454,621	\$444,322	\$ 419,781	\$ 679,523
Gross profit . . . . .	215,801	173,445	165,733	132,138	207,748
Income (loss) from operations . . . . .	74,527	66,795	52,847	(58,216)	(212,823)
Net income (loss) applicable to common shares . . . . .	61,963	23,422	(38,774)	(113,559)	(293,713)
Net income (loss) per basic share . . . . .	\$ 0.40	\$ 0.15	\$ (0.27)	\$ (1.03)	\$ (3.06)
Net income (loss) per diluted share . . . . .	\$ 0.39	\$ 0.15	\$ (0.27)	\$ (1.03)	\$ (3.06)
<b>Balance Sheet Data (end of year):</b>					
Working capital(1) . . . . .	\$164,693	\$163,677	\$171,851	\$ (59,018)	\$ 267,155
Total assets . . . . .	820,583	674,058	631,857	748,186	861,431
Notes payable and long-term debt . . . . .	105,328	105,112	108,660	277,381	291,909
Total equity . . . . .	499,019	425,812	380,447	282,468	325,070
<b>Other Data:</b>					
Investment in multi-client library . . . . .	\$145,627	\$143,782	\$ 64,426	\$ 89,635	\$ 110,362
Capital expenditures . . . . .	14,877	11,060	7,372	2,966	17,539
Depreciation and amortization (other than multi-client library) . . . . .	16,202	13,917	24,795	47,911	33,052
Amortization of multi-client library . . . . .	89,080	77,317	85,940	48,449	80,532

(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***

We are a technology-focused seismic solutions company that provides planning and seismic processing services, software and advanced acquisition equipment to the global energy industry. 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 during exploration, exploitation, and production operations. Our services and products are intended to measure and interpret seismic data about rock and fluid properties within the Earth’s subsurface to enable oil and gas companies to make improved drilling and production decisions.

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 we contract with third party seismic data acquisition companies to shoot and acquire the seismic data, all of which is intended to minimize our risk exposure. We serve customers in all major energy-producing regions of the world from strategically located offices in 20 cities on five continents.

In 2010, we formed a joint venture with BGP, Inc., China National Petroleum Corporation (“BGP”), a subsidiary of China National Petroleum Corporation, and contributed most of our land seismic equipment businesses to INOVA Geophysical Equipment Limited (“INOVA Geophysical”), the joint venture entity. In a related transaction, we issued to BGP 23.8 million shares of our common stock, which represents approximately 15.2% of our outstanding shares at December 31, 2012. BGP is generally regarded as the world’s largest land geophysical service contractor. BGP owns a 51% interest in INOVA Geophysical and we own a 49% interest.

Our services and products include the following:

- Seismic data processing and reservoir imaging services,
- Seismic data libraries,
- Planning services for survey design and optimization,
- Navigation, command & control, and data management software products,
- Marine seismic data acquisition equipment, and
- Land seismic data acquisition equipment (principally through our 49% ownership in INOVA Geophysical).

We operate our company through three business segments: Solutions, Systems, and Software, and through our INOVA Geophysical joint venture.

- *Solutions*—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 services group.
- *Systems*—towed streamer and redeployable ocean bottom cable seismic data acquisition systems and shipboard recorders, streamer positioning and control systems, energy sources and analog geophone sensors.
- *Software*—software systems and related services for navigation and data management involving towed marine streamer and seabed operations.
- *INOVA Geophysical*—through our interest in INOVA Geophysical, 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.

### ***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. During 2012, WTI spot crude oil prices rose to approximately \$110 per barrel in the first quarter, declined to just below \$80 per barrel near the end of the second quarter, and then steadily increased to nearly \$100 per barrel near the end of the third quarter. During the fourth quarter of 2012, WTI spot crude oil prices traded in a narrower range of \$85 to \$93 per barrel; finishing the year near \$90 per

barrel. Brent crude oil prices followed a similar pattern to WTI, initially rising to approximately \$126 per barrel in the first quarter, followed by a steady decline to \$90 per barrel by the end of the second quarter, then steadily rising to approximately \$116 per barrel late in the third quarter; it traded in a narrower range during 2012's fourth quarter of \$106 to \$114 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 2013 as demand outpaces supply.

U.S. natural gas prices appeared to reverse their downward trend in 2012. U.S. Henry Hub natural gas prices decreased to approximately \$1.90 per MMBtu in April 2012, but during the third quarter, natural gas prices traded in a range from \$2.65 to \$3.40 per MMBtu, and during the fourth quarter in a higher range of \$3.30 to \$4.00. While it may be too early to tell if this change in price direction is in fact a trend reversal, demand for natural gas has not deteriorated. We believe demand for natural gas will continue to grow and that industry investment in shale-based gas production will increase and be facilitated by new investment in technologies to locate and extract the reserves.

For 2012, our Solutions segment revenues increased over 2011 results, due to improved data processing revenues and higher sales by our GeoVentures business. During 2012, our participation in oil and gas shale plays continued to expand, with the completion of our second land multi-client new venture project in the Marcellus shale area, and with four other projects underway, including a land project in Poland. In the process, we are increasing our technical understanding of both oil and gas shale plays and we intend to leverage this expertise to broaden our oil and gas shale footprint geographically in both the U.S. and international markets. In addition, customer demand remains high for seismic data acquired by our GeoVentures business in offshore areas around the globe where E&P companies have demonstrated a strong interest for exploration, including frontier basins offshore Latin America, Africa, and in the Arctic, as well as ResSCAN land programs in North America. At December 31, 2012, 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 \$151.3 million compared with \$134.2 million at December 31, 2011, an increase of 13%. We anticipate that the majority of this backlog will be recognized as revenue over the first half of 2013.

Revenues for our Systems segment decreased in 2012 compared to 2011. While this segment benefited from healthy marine repair and replacement sales and improved ocean bottom cable sales, we experienced soft streamer positioning sales in 2012, primarily attributable to modest capital spending by our contractor customers. This reduced level of spending was principally related to a lower number of new vessels (on which our Systems equipment and software are often installed) introduced in 2012, compared to the number of new vessels introduced in 2011. In 2011, we also recognized revenue from the sale to BGP of a DigiSTREAMER twelve-streamer system; there was no similar sale of that magnitude in 2012. In January 2013, CGGVeritas closed its acquisition of Fugro's geoscience division, further consolidating the marine towed streamer industry market segment, which could lead to a reduction in the number of our potential customers and vessel outfitting opportunities. Our Software segment revenues increased in 2012 compared to 2011 due to steady subscription sales of Orca and Gator software.

Our land seismic business, particularly INOVA Geophysical's business in North America and Russia, continues to show progress, reporting a sizable increase in revenues and gross profits for the twelve-month period from October 1, 2011 to September 30, 2012, compared to the twelve-month period ended September 30, 2011. With the recent launches of its lower-cost cableless Hawk land system, an improved FireFly system ("FireFly DR31") and a new cabled system (G3i), INOVA has positive momentum heading into the next twelve-month period.



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 DigiFIN, DigiSTREAMER, Orca, our WiBand data processing technology and INOVA Geophysical's newest technologies (including FireFly DR31, Hawk SN11, UNIVIB, a new VectorSeis ML21 digital sensor, upgrades to its ARIES II product with digital sensor capabilities and its new G3i cabled system), will continue to attract customer interest, because those technologies are designed to deliver improvements in image quality within more productive delivery systems.

We expect the 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 2013 as compared to 2012. 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, (iii) the level of exploration and development activities in the US Gulf of Mexico will continue to increase, and (iv) there will be increasing demand for seismic services in the Middle East and North Africa resulting from improved geopolitical stability in those areas.

### ***WesternGeco Legal Proceedings***

The trial in this lawsuit began on July 23, 2012. A verdict was returned by the jury on August 16, 2012, finding that we willfully infringed the claims contained in four patents and awarding WesternGeco the sum of \$105.9 million in damages, consisting of \$12.5 million in reasonable royalty and \$93.4 million in lost profits. We believe that the verdict is not consistent with applicable law or the facts or evidence in the case and, on September 28, 2012, filed motions with the trial court to overturn all or portions of the verdict. See further discussion at Part I, Item 3.—“*Legal Proceedings*.”

The ultimate outcome of the case in the trial court, and the content of the final judgment as a whole, presently rest with the presiding trial court judge. The next step in the case is for the trial court judge to decide post-verdict motions filed by the parties and enter a judgment. The final judgment will determine the result of the trial prior to appeal. When he enters a judgment in the case, the judge can choose to follow the jury verdict or to take other actions, such as changing to a different result or ordering an entirely new trial. As of the filing date of this Annual Report on Form 10-K, the Court had not yet entered a judgment in the case. If the Court enters a judgment that is adverse to us, 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.

### ***Key Financial Metrics***

The following table provides an overview of key financial metrics for our company as a whole and our three business segments during 2012, 2011 and 2010. In order to assist with the comparability to our historical results of operations, the financial tables and discussion below for 2010, segregate the results of operations of our disposed legacy land seismic equipment segment (which we refer to below as our “Legacy Land Systems” segment). For tabular information on the operating results of our INOVA Geophysical joint venture, see “*Equity in Earnings (Losses) of INOVA Geophysical*” in the discussion below.

Our “multi-client” business in our Solutions segment includes “New Venture” activities and our “Data Library.” “New Venture” activities involve acquiring and processing data in our regional seismic data programs using advanced geophysical technology. Once the data is processed, the program moves into our Data Library category.

	Years Ended December 31,		
	2012	2011	2010
	(in thousands, except per share amounts)		
Net revenues:			
Solutions:			
New Venture . . . . .	\$147,346	\$ 98,335	\$ 81,293
Data Library . . . . .	88,085	76,332	87,664
Total multi-client revenues . . . . .	235,431	174,667	168,957
Data Processing . . . . .	115,834	88,783	107,997
Total . . . . .	<u>\$351,265</u>	<u>\$263,450</u>	<u>\$276,954</u>
Systems:			
Towed Streamer . . . . .	\$ 77,769	\$111,453	\$ 83,567
Ocean bottom . . . . .	14,823	960	1,876
Other . . . . .	39,404	40,591	28,783
Total . . . . .	<u>\$131,996</u>	<u>\$153,004</u>	<u>\$114,226</u>
Software:			
Software Systems . . . . .	\$ 39,738	\$ 36,031	\$ 34,465
Services . . . . .	3,318	2,136	2,166
Total . . . . .	<u>\$ 43,056</u>	<u>\$ 38,167</u>	<u>\$ 36,631</u>
Legacy Land Systems (INOVA) . . . . .	\$ —	\$ —	\$ 16,511
Total . . . . .	<u>\$526,317</u>	<u>\$454,621</u>	<u>\$444,322</u>
Gross profit:			
Solutions . . . . .	\$132,950	\$ 84,647	\$ 93,804
Systems . . . . .	50,790	61,109	48,557
Software . . . . .	32,061	27,689	24,356
Legacy Land Systems (INOVA) . . . . .	—	—	(984)
Total . . . . .	<u>\$215,801</u>	<u>\$173,445</u>	<u>\$165,733</u>
Gross margin:			
Solutions . . . . .	38%	32%	34%
Systems . . . . .	38%	40%	43%
Software . . . . .	74%	73%	66%
Legacy Land Systems (INOVA) . . . . .	—	—	(6%)
Total . . . . .	<u>41%</u>	<u>38%</u>	<u>37%</u>
Income from operations:			
Solutions . . . . .	\$ 88,589	\$ 50,620	\$ 60,632
Systems . . . . .	10,132	33,034	27,749
Software . . . . .	28,129	24,463	21,936
Corporate and other . . . . .	(52,323)	(41,322)	(47,847)
Legacy Land Systems (INOVA) . . . . .	—	—	(9,623)
Total . . . . .	<u>\$ 74,527</u>	<u>\$ 66,795</u>	<u>\$ 52,847</u>
Operating Margin:			
Solutions . . . . .	25%	19%	22%
Systems . . . . .	8%	22%	24%
Software . . . . .	65%	64%	60%
Corporate and other . . . . .	(10%)	(9%)	(11%)
Legacy Land Systems (INOVA) . . . . .	—	—	(58%)
Total . . . . .	<u>14%</u>	<u>15%</u>	<u>12%</u>
Net income (loss) applicable to common shares . . . . .	<u>\$ 61,963</u>	<u>\$ 23,422</u>	<u>\$(38,774)</u>
Basic net income (loss) per common share . . . . .	<u>\$ 0.40</u>	<u>\$ 0.15</u>	<u>\$( 0.27)</u>
Diluted net income per (loss) common share . . . . .	<u>\$ 0.39</u>	<u>\$ 0.15</u>	<u>\$( 0.27)</u>

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 2012, 2011 and 2010, we recognized in our consolidated results of operations our share of earnings (losses) in INOVA Geophysical of approximately \$0.3 million, \$(22.9) million, and \$(23.7) million, which represent joint venture operations for the periods from October 1, 2011 through September 30, 2012, October 1, 2010 through September 30, 2011, and March 26, 2010 (inception) through September 30, 2010, respectively.

We expect to file an amendment on Form 10-K/A to this Annual Report on Form 10-K within the six-month period following December 31, 2012 in order to file separate consolidated financial statements for INOVA Geophysical for the fiscal year ended December 31, 2012, as required under SEC Regulation S-X.

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, 2012 Compared to Year Ended December 31, 2011*

	Years Ended December 31,	
	2012	2011
	(In thousands)	
Net revenues . . . . .	\$526,317	\$454,621
Cost of sales . . . . .	310,516	281,176
Gross profit . . . . .	215,801	173,445
Gross margin . . . . .	41%	38%
Operating expenses:		
Research, development and engineering . . . . .	34,080	24,569
Marketing and sales . . . . .	35,240	31,269
General, administrative and other operating expenses . . . . .	71,954	50,812
Total operating expenses . . . . .	141,274	106,650
Income from operations . . . . .	<u>\$ 74,527</u>	<u>\$ 66,795</u>

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%, compared to 2011’s gross profit percentage of 38%. Total operating expenses as a percentage of net revenues for 2012 and 2011 were 27% and 23%, respectively. During 2012, we recorded income from operations of \$74.5 million compared to \$66.8 million 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 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, and was 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 \$10.3 million to \$50.8 million, representing a 38% 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 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 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 sales in 2011.

### ***Operating Expenses***

*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 this, 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 \$72.0 million for 2012 increased \$21.1 million compared to \$50.8 million, for the corresponding period of 2011. General, administrative and other operating expenses as a percentage of net revenues for 2012 and 2011 were 14% and 11%, respectively. This increase in expense was primarily due to significantly higher legal fees (\$9.0 million) and the write-down of marine equipment and receivables totaling \$11.6 million. In 2012, we had experienced increased legal fees and expenses defending the lawsuit brought against us by WesternGeco and pursuing the lawsuit brought by us against Sercel. See further discussion at Part I, Item 3. “*Legal Proceedings.*”

### ***Non-operating 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 INOVA Geophysical*—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 fiscal 2012 and fiscal 2011, respectively. For 2012 and 2011, we recorded our 49% share of equity (i) earnings of approximately \$0.3 million, and (ii) losses of approximately \$22.9 million (including \$7.7 million that represented our share of a write-down of excess inventory), respectively.

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

	<u>Fiscal 2012</u>	<u>Fiscal 2011</u>
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)

*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):

	<u>Years Ended</u> <u>December 31,</u>	
	<u>2012</u>	<u>2011</u>
Gain on legal settlements, net . . . . .	\$20,895	\$ —
Write-down of investments . . . . .	(556)	(1,312)
Other income (expense) . . . . .	<u>(3,215)</u>	<u>(2,135)</u>
Total other income (expense) . . . . .	<u>\$17,124</u>	<u>\$(3,447)</u>

*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 relates to our Series D Preferred Stock. Quarterly dividends must be paid in cash. Dividends are paid 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. The Series D Preferred Stock dividend rate was 5.0% at December 31, 2012. The total amount of dividends paid on our preferred stock in 2012 was the same as in 2011.

**Year Ended December 31, 2011 Compared to Year Ended December 31, 2010**

Revenues, costs and expenses for 2010 that are identified as “adjusted” or “as adjusted” in the discussion below reflect exclusion of the revenues, costs and expenses from our disposed land equipment segment’s business, or “Legacy Land Systems.”

	Year Ended December 31, 2011	Year Ended December 31, 2010	
		As Reported	As Adjusted(1)
		(In thousands)	
Net revenues . . . . .	\$454,621	\$444,322	\$427,811
Cost of sales . . . . .	281,176	278,589	261,094
Gross profit . . . . .	173,445	165,733	166,717
Gross margin . . . . .	38%	37%	39%
Operating expenses:			
Research, development and engineering . . . . .	24,569	25,227	21,046
Marketing and sales . . . . .	31,269	30,405	28,846
General, administrative and other operating expenses . . . . .	50,812	57,254	54,355
Total operating expenses . . . . .	106,650	112,886	104,247
Income from operations . . . . .	\$ 66,795	\$ 52,847	\$ 62,470

(1) Excluding Legacy Land Systems (INOVA).

Our total net revenues of \$454.6 million for 2011 increased \$10.3 million, or 2%, compared to total net revenues for 2010. Excluding the results of operations of the Legacy Land Systems (INOVA) business, total net revenues increased \$26.8 million, or 6%, for 2011. Our overall gross profit percentage for 2011 was 38%, fairly comparable to 2010’s percentage, as adjusted. Total operating expenses as a percentage of net revenues for 2011 and 2010 (as adjusted) were 23% and 24%, respectively. During 2011, we recorded income from operations of \$66.8 million compared to \$62.5 million for 2010, as adjusted.

**Net Revenues, Gross Profits and Gross Margins (as adjusted, excluding Legacy Land Systems results for 2010)**

*Solutions*—Net revenues for 2011 decreased by \$13.5 million, to \$263.5 million, compared to \$277.0 million for 2010. This decrease was primarily due to lower data processing revenues as our data processing business was negatively impacted by the lagging effects of the slowdown in the Gulf of Mexico. This decrease was partially offset by increased demand for access to our multi-client new venture projects and licensing of data libraries in Greenland, East Africa and in North American shale plays, although overall data library sales were down. Gross profit decreased by \$9.2 million to \$84.6 million, representing a 32% gross margin, compared to \$93.8 million, or a 34% gross margin, for 2010, primarily attributable to lower data processing revenues.

*Systems*—Net revenues for 2011 increased by \$38.8 million to \$153.0 million, compared to \$114.2 million for 2010. This increase was driven primarily by higher sales of towed streamer and other marine products, including revenue recognized from the sale to BGP of a DigiSTREAMER twelve-streamer system. Gross profit for 2011 increased by \$12.5 million to \$61.1 million, representing a 40% gross margin, compared to \$48.6 million, representing a 43% gross margin, for 2010. The decrease in gross margins in our Systems segment was primarily due to changes in product mix, with the large DigiSTREAMER system sale having a lower margin relative to our other marine streamer products, such as our streamer positioning equipment.



*Software*—Net revenues for 2011 increased by \$1.5 million, or 4%, to \$38.2 million, compared to \$36.6 million for 2010. The increase in revenues as expressed in U.S. Dollars was principally due to the effect of foreign currency exchange rate fluctuations. Expressed in British pounds sterling (the local currency), net revenues were flat. Gross profit increased by \$3.3 million to \$27.7 million compared to \$24.4 million for 2010, while gross margins increased by 7% to 73% due to changes in product mix (there was a relative increase in software sales during 2011, which have higher margins than the associated hardware sales in this segment).

***Operating Expenses (as adjusted, excluding Legacy Land Systems results for 2010)***

*Research, Development and Engineering*—Research, development and engineering expense was \$24.6 million, or 5% of net revenues, for 2011, an increase of \$3.6 million compared to \$21.0 million, or 5% of net revenues, for 2010, as adjusted. This increase in research and development expense was due to increased investment by our Systems segment to develop our next-generation marine technologies. We continue to strategically invest in our next generation of seismic data acquisition services and products, particularly in shale formation technologies and marine platforms, and we expect this investment will continue in the future.

*Marketing and Sales*—Marketing and sales expense of \$31.3 million, or 7% of net revenues, for 2011 increased \$2.5 million compared to \$28.8 million, or 7% of net revenues, for 2010, as adjusted. This increase in marketing and sales expense was due to higher advertising and employment-related expenses. We intend to continue investing significant sums in our marketing efforts as we seek to penetrate markets with our latest services and products.

*General, Administrative and Other Operating Expenses*—General, administrative and other operating expenses of \$50.8 million for 2011 decreased \$3.6 million compared to \$54.4 million, for the corresponding period of 2010, as adjusted. General, administrative and other operating expenses as a percentage of net revenues for 2011 and 2010 were 11% and 13%, respectively. This decrease in expense was due to lower legal costs, and lower stock-based compensation and employment-related expenses. This decrease was partially offset by \$2.9 million of severance charges primarily related to the restructuring of geophone operations in the Netherlands as we moved our geophone manufacturing operations to lower-cost centers in Asia.

***Non-operating Items***

*Interest Expense, net*—Interest expense, net, of \$5.8 million for 2011 decreased \$25.0 million compared to \$30.8 million for 2010. Our interest expense in 2010 included accretion costs of approximately \$8.7 million of non-cash debt discount (fully amortized in the first quarter of 2010) associated with two promissory notes payable to our senior credit bank lender, Bank of China, New York Branch, that we had signed and delivered to the bank in October 2009, and a write-off of \$10.1 million of deferred financing charges related to our debt refinancing transactions during the first quarter of 2010. After excluding these two non-cash items, our 2010 interest expense, net, was \$12.0 million for the year. As a result of our March 2010 debt refinancing transactions, our interest expense was significantly lower in 2011 than we experienced in 2010.

*Equity in Losses of INOVA Geophysical*—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, our share of INOVA Geophysical's losses for the periods from October 1, 2010 to September 30, 2011 ("Fiscal 2011") and from March 26, 2010 through September 30, 2010 ("Fiscal 2010") are included in our consolidated financial results for 2011 and 2010, respectively. For 2011 and 2010, we recorded our 49% share of equity losses of approximately \$22.9 million (including \$7.7 million that represents our share of a write-down of excess inventory) and \$23.7 million (including \$9.5 million that represents our share of a write-down of excess inventory), respectively. The global land seismic equipment business continued to be negatively impacted by reduced demand, particularly in North America and Russia during 2011 and 2010.

The following table reflects the summarized financial information for INOVA Geophysical for Fiscal 2011 and Fiscal 2010 (in thousands):

	<u>Fiscal 2011</u>	<u>Fiscal 2010</u>
Total net revenues . . . . .	\$138,735	\$ 47,609
Gross profit (loss) . . . . .	\$ 5,765	\$(21,574)
Loss from operations . . . . .	\$(41,836)	\$(45,423)
Net loss . . . . .	\$(46,033)	\$(48,416)

*Other Income (Expense)*—Other expense for 2011 was \$3.4 million compared to other expense of \$8.2 million for 2010. The difference between 2011’s and 2010’s totals primarily results from the disposition of the Legacy Land System in 2010, offset by the fair value adjustment of a warrant we had issued to BGP and the gain on a legal settlement in 2010.

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

	<u>Years Ended</u> <u>December 31,</u>	
	<u>2011</u>	<u>2010</u>
Gain on a legal settlement . . . . .	\$ —	\$ 24,500
Loss on disposition of land division . . . . .	—	(38,115)
Fair value adjustment of warrant . . . . .	—	12,788
Write-down of investments . . . . .	(1,312)	(7,650)
Other income (expense) . . . . .	(2,135)	228
Total other expense . . . . .	<u>\$(3,447)</u>	<u>\$ (8,249)</u>

*Income Tax Expense*—Income tax expense for 2011 was \$10.1 million compared to \$26.9 million for 2010. Income tax expense for 2011 included the establishment of \$8.5 million of valuation allowance related to our share of INOVA Geophysical’s 2011 net loss and write-down of investments. We continued to maintain a valuation allowance for a significant portion of our U.S. federal net deferred tax assets. Our effective tax rates for 2011 and 2010 were 29.2% and 272.2% (provision on a loss), respectively. The change in our effective tax rate between 2011 and 2010 was due primarily to the transactions related to the formation of INOVA Geophysical in 2010, the establishment of additional valuation allowances and changes in the distribution of earnings between U.S. and foreign jurisdictions. Excluding the impact of these items, our effective tax rates would have been 17.2% and 14.5% for 2011 and 2010, respectively.

## **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, 2012, we had working capital of \$164.7 million, which included \$61.0 million of cash on hand. Working capital requirements are primarily driven by our continued investment in our multi-client seismic data library (\$145.6 million in 2012) and, to a lesser extent, our inventory purchase obligations. At December 31, 2012, our outstanding inventory purchase obligations were \$26.5 million. Also, our headcount has traditionally been a significant driver of our working capital needs. Because a significant portion of our business is involved in the planning, processing and interpretation of seismic data services, one of our largest investments is in our employees, which involves cash expenditures for their salaries, bonuses, payroll taxes and related compensation expenses.

Our working capital requirements may change from time to time depending upon many factors, including our operating results and adjustments in our operating plan required in response to industry conditions, competition, acquisition opportunities and unexpected events, such as an adverse judgment in our WesternGeco litigation, which is further discussed at Part I, Item 3. “*Legal Proceedings.*” In recent years, our primary sources of funds have been cash flows generated from our operations, our existing cash balances, debt and equity issuances and borrowings under our revolving credit facilities. At December 31, 2012, our principal outstanding credit facility consisted of a revolving line of credit providing for borrowings of up to \$175.0 million, which \$97.3 million was outstanding as of that date, leaving \$77.7 million of unused and available capacity.

*Revolving Line of Credit*—On May 29, 2012, we amended the terms of our senior secured credit facility (the “Credit Facility”) with China Merchants Bank Co., Ltd., New York Branch, as administrative agent and lender (“CMB”). 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 in March 2010.

As amended by the First Amendment, the Credit Facility now 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. 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. For further information on our Credit Facility, see Note 11 “*Long-term Debt, Lease Obligations and Interest Rate Caps*” at Notes to Consolidated Financial Statements.

### **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, 2012, our total outstanding indebtedness (including capital lease obligations) was approximately \$105.3 million, consisting of approximately \$97.3 million outstanding under our revolving line of credit, \$2.3 million relating to our facility lease obligations and \$5.7 million of capital leases. As of December 31, 2012, we had \$77.8 million undrawn and available on our revolving line of credit under our Credit Facility, and had approximately \$61.0 million of cash on hand.

For 2012, total capital expenditures, including investments in our multi-client data library, were \$160.5 million, and we are projecting capital expenditures for 2013 to be between \$160 million to \$190 million. Of the total projected 2013 capital expenditures, we are estimating that approximately \$140 million to \$160 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, 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.

### ***Cash Flow from Operations***

Net cash provided by operating activities was \$169.1 million for 2012, compared to \$130.0 million for 2011. The increase in our cash flows from operations was due in part to the increase in our income from operations for 2012 compared to 2011. Also positively impacting our cash flows was an increase in accrued expenses related to our GeoVentures projects. This is partially offset by an increase in unbilled revenues related to GeoVentures.

Net cash provided by operating activities was \$130.0 million for 2011, which was comparable to the \$133.4 million of net cash provided by operating activities in 2010. Similar to 2010, our increase in sales activity during the fourth quarter of 2011, resulted in an increase in our accounts receivable and then had a positive impact to our cash balances in the first quarter of 2012, as we converted our receivables into cash.

#### ***Cash Flow from Investing Activities***

Net cash flow used in investing activities was \$144.3 million for 2012, compared to net cash used in investing activities of \$181.6 million for 2011. The principal uses of cash in our investing activities during 2012 were \$145.6 million of continued investments in our multi-client data library and \$14.9 million in investments in property, plant and equipment. These uses of cash were offset by the cash provided by the maturity of \$20.0 million in short-term bank certificates of deposit.

Net cash flow used in investing activities was \$181.6 million for 2011, compared to net cash provided by investing activities of \$27.5 million for 2010. The principal uses of cash in our investing activities during 2011 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 used in financing activities was \$6.5 million for 2012, compared to \$9.8 million of net cash flow provided by financing activities for 2011. The net cash flow used in financing activities during 2012 was primarily related to repayment of our term loan of \$98.3 million, offset by net borrowings under our amended revolving line of credit of \$97.3 million. We also 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, compared to \$92.7 million of net cash flow used in financing activities for 2010. 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 also 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 2011 and 2012 driven by increased capital expenditures from our E&P customers, consistent with our historical seasonality.

## Future Contractual Obligations

The following table sets forth estimates of future payments of our consolidated contractual obligations, as of December 31, 2012 (in thousands):

<u>Contractual Obligations</u>	<u>Total</u>	<u>Less Than 1 Year</u>	<u>1 - 3 Years</u>	<u>3 - 5 Years</u>	<u>More Than 5 Years</u>
Long-term debt . . . . .	\$ 99,584	\$ 832	\$ 98,752	\$ —	\$ —
Interest on long-term debt obligations . . . . .	5,800	2,597	3,203	—	—
Equipment capital lease obligations . . . . .	5,744	2,664	3,080	—	—
Operating leases . . . . .	102,753	8,641	16,197	17,878	60,037
Purchase obligations . . . . .	26,451	26,451	—	—	—
Total . . . . .	<u>\$240,332</u>	<u>\$41,185</u>	<u>\$121,232</u>	<u>\$17,878</u>	<u>\$60,037</u>

The long-term debt and lease obligations at December 31, 2012 included \$97.3 million under our term loan scheduled to mature in 2015 and \$2.3 million of indebtedness related to our Stafford, Texas facility sale-leaseback arrangement. The \$5.7 million of capital lease obligations relates to GXT's financing of computer and other equipment purchases.

The operating lease commitments at December 31, 2012 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 2013.

## 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. Management has discussed these critical accounting estimates with the Audit Committee of our Board of Directors and the Audit Committee has reviewed our disclosures relating to the estimates in this Management's Discussion and Analysis.

### *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.

*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 2012, 2011 and 2010, we capitalized, as part of our multi-client data library, \$3.8 million, \$2.4 million, and \$2.8 million, respectively, of direct internal processing costs.

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 2012, an increase in 10% in the sales forecasts of all surveys would have decreased our amortization expense by approximately \$5.9 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*," ("ASC 360-10") record an impairment charge with respect to such data. There were no significant impairment charges during 2012, 2011 and 2010.

#### ***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, 2012 was \$14.2 million compared to \$13.0 million at December 31, 2011.

#### ***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.

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, 2012 noting no impairments. Our goodwill as of December 31, 2012 was comprised of \$27.0 million in our Marine Systems, \$25.2 million in our Software and \$2.9 million in our Solutions reporting units. Our 2012 qualitative assessment indicated that it is more likely than not that the fair value of our Software reporting unit exceeds its carrying value. Our 2012 quantitative assessment indicated that the fair values of our Solutions and Marine Systems 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, 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.

### ***Stock-Based Compensation***

We account for stock-based compensation under the recognition provisions of ASC 718 "*Compensation—Stock Compensation*" ("ASC 718"). We estimate 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 our stock price as well as assumptions regarding a number of subjective variables. These variables include, but are not limited to, our 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.

In 2012, 2011 and 2010, we recognized \$6.6 million, \$6.3 million and \$8.1 million, respectively, of stock-based compensation expense related to our employees' outstanding stock-based awards. The total

expense in 2012 was comprised of \$1.3 million reflected in cost of sales, \$0.5 million in research, development and engineering expense, \$0.8 million in marketing and sales expense, and \$4.0 million in general, administrative and other operating expense.

#### ***Deferred Tax Assets***

In 2012, we released approximately \$6.6 million of valuation allowance, as we were no longer in a recent cumulative loss position and our projections indicated that these deferred tax assets would likely be realized. However, additional valuation allowances were established on certain U.S. deferred tax assets related to capital losses and basis differences that will result in capital losses. We determine the valuation allowance in accordance with the provisions of ASC 740, “*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 items that relate to capital losses or basis differences that will create capital losses until there is sufficient evidence to warrant reversal. In the event that our expectations of future operating results change, an additional valuation allowance may be required to be established on our unreserved net deferred tax assets.

#### **Foreign Sales Risks**

For 2012, we recognized \$200.6 million of sales to customers in Europe, \$55.0 million of sales to customers in Asia Pacific, \$46.2 million of sales to customers in Latin American countries, \$37.5 million of sales to customers in the Middle East, \$18.5 million of sales to customers in Africa and \$4.4 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 2012, 2011 and 2010, international sales comprised 69%, 66% and 60%, 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 2012, 2011 and 2010, we recorded revenues from BGP for purchases of services and products of \$13.7 million, \$34.5 million and \$16.9 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 \$1.6 million and \$15.2 million at December 31, 2012 and 2011, respectively. BGP owned (purchased in March 2010) approximately 15.2% of our outstanding common stock as of December 31, 2012. For 2012, we paid BGP \$2.0 million for seismic acquisition services provided on one of the our new venture projects. At December 31, 2012, we owed BGP \$9.3 million for unpaid services received on that project.

Until June 2012, we were a party to a support and transition agreement to provide INOVA Geophysical with certain administrative services, including tax, legal, information technology, treasury, human resources, bookkeeping, facilities and marketing services. The terms of the arrangement provided for INOVA Geophysical to pay us approximately \$0.3 million per month (beginning in April 2010) for services and to reimburse us for third-party and lease costs we incurred directly related to the support of INOVA Geophysical. We were paid \$3.5 million under this arrangement in 2012. The term of the agreement was for two years and it terminated on June 30, 2012.

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 6.4% of our outstanding common stock as of December 31, 2012.

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 2012, we paid Laitram and its affiliates a total of approximately \$4.1 million, which consisted of approximately \$3.2 million for manufacturing services, \$0.6 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 2011 and 2010 fiscal years, we paid Laitram and its affiliates a total of approximately \$6.3 million and \$3.1 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.

### **Off-Balance Sheet Arrangements**

As of December 31, 2012, we did not have any off-balance-sheet arrangements, as defined in Item 303(a)(4)(ii) of SEC Regulation S-K.

### **Indemnification**

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

### **Item 7A. *Quantitative and Qualitative Disclosures about Market Risk***

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

#### **Interest Rate Risk**

As of December 31, 2012, we had outstanding total indebtedness of approximately \$105.3 million, including capital lease obligations. Of that indebtedness, approximately \$97.3 million accrues interest under rates that fluctuate based upon market rates plus an applicable margin. As of December 31, 2012, the \$97.3 million in outstanding revolving loan indebtedness under the Credit Facility accrued interest at a rate of 2.67% 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 \$1.0 million.

As our borrowings under the revolving credit facility are subject to variable interest rates, we are subject to interest rate risk. 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, 2012 reflected approximately \$29.2 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 Exchange Act is recorded, processed, summarized and reported within the time period specified by the SEC's rules and forms. Disclosure controls and procedures, include, without limitation, controls and procedures designed to ensure that information required to be disclosed under the Exchange Act is accumulated and communicated to management, including the principal executive officer and the principal financial officer, as appropriate, to allow timely decisions regarding required disclosure.

Our management carried out an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rule 13a-15(e) under the Exchange Act) as of December 31, 2012. Based upon that evaluation, our principal executive officer and our principal financial officer concluded that our disclosure controls and procedures were effective as of December 31, 2012.

(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, 2012 based upon criteria established in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based upon their assessment, management concluded that the internal control over financial reporting was effective as of December 31, 2012.

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.* There was not any change in our internal control over financial reporting that occurred during the three months ended December 31, 2012, which has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

## **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, 2012, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (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, 2012, 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, 2012 and 2011 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, 2012 of ION Geophysical Corporation and subsidiaries and our report dated February 19, 2013 expressed an unqualified opinion thereon.

/s/ Ernst & Young LLP

Houston, Texas  
February 19, 2013

**Item 9B. *Other Information***

Not applicable.

**PART III**

**Item 10. *Directors, Executive Officers and Corporate Governance***

Reference is made to the information appearing in the definitive proxy statement, under “*Item 1—Election of Directors*,” for our annual meeting of stockholders to be held on May 22, 2013 (the “2013 Proxy Statement”) to be filed with the SEC with respect to Directors, Executive Officers and Corporate Governance, which is incorporated herein by reference and made a part hereof in response to the information required by Item 10.

**Item 11. *Executive Compensation***

Reference is made to the information appearing in the 2013 Proxy Statement, under “*Executive Compensation*,” to be filed with the SEC with respect to Executive Compensation, which is incorporated herein by reference and made a part hereof in response to the information required by Item 11.

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

Reference is made to the information appearing in the 2013 Proxy Statement, under “*Item 1—Ownership of Equity Securities of ION*” and “*Equity Compensation Plan Information*,” to be filed with the SEC with respect to Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters, which is incorporated herein by reference and made a part hereof in response to the information required by Item 12.

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

Reference is made to the information appearing in the 2013 Proxy Statement, under “*Item 1—Certain Transactions and Relationships*,” to be filed with the SEC with respect to Certain Relationships and Related Transactions and Director Independence, which is incorporated herein by reference and made a part hereof in response to the information required by Item 13.

**Item 14. *Principal Accountant Fees and Services***

Reference is made to the information appearing in the 2013 Proxy Statement, under “*Principal Auditor Fees and Services*,” to be filed with the SEC with respect to Principal Accountant Fees and Services, which is incorporated herein by reference and made a part hereof in response to the information required by Item 14.

## 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 — Form of Senior Indenture, filed on December 19, 2008 as Exhibit 4.3 to the Company's Registration Statement on Form S-3 (Registration No. 333-156362) and incorporated herein by reference.
- 4.7 — Form of Senior Note, filed on December 19, 2008 as Exhibit 4.4 to the Company's Registration Statement on Form S-3 (Registration No. 333-156362) and incorporated herein by reference.
- 4.8 — Form of Subordinated Indenture, filed on December 19, 2008 as Exhibit 4.5 to the Company's Registration Statement on Form S-3 (Registration No. 333-156362) and incorporated herein by reference.
- 4.9 — Form of Subordinated Note, filed on December 19, 2008 as Exhibit 4.6 to the Company's Registration Statement on Form S-3 (Registration No. 333-156362) and incorporated herein by reference.
- 4.10 — 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.
- \*\*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.
- 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.A 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.
- \*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, 2012 and 2011, (ii) Consolidated Statements of Operations for the years ended December 31, 2012, 2011 and 2010, (iii) Comprehensive Income (Loss) for the years ended December 31, 2012, 2011 and 2010, (iv) Consolidated Statements of Cash Flows for the years ended December 31, 2012, 2011 and 2010, (v) Consolidated Statements of Stockholders' Equity for the years ended December 31, 2012, 2011 and 2010, (vi) Notes to Consolidated Financial Statements and (vii) Schedule II—Valuation and Qualifying Accounts.\*\*\*

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\* Filed herewith.

\*\* Management contract or compensatory plan or arrangement.

\*\*\* In accordance with Rule 406T of Regulation S-T, the XBRL-related information in Exhibit 101 to this Annual Report on Form 10-K is deemed not filed or part of a registration statement or prospectus for purposes of sections 11 or 12 of the Securities Act, is deemed not filed for purposes of section 18 of the Exchange Act and otherwise is not subject to liability under these sections.

*(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.*



<u>Name</u>	<u>Capacities</u>	<u>Date</u>
<u>/s/ DAVID H. BARR</u> David H. Barr	Director	February 19, 2013
<u>/s/ HAO HUIMIN</u> Hao Huimin	Director	February 19, 2013
<u>/s/ MICHAEL C. JENNINGS</u> Michael C. Jennings	Director	February 19, 2013
<u>/s/ FRANKLIN MYERS</u> Franklin Myers	Director	February 19, 2013
<u>/s/ S. JAMES NELSON, JR.</u> S. James Nelson, Jr.	Director	February 19, 2013
<u>/s/ JOHN N. SEITZ</u> John N. Seitz	Director	February 19, 2013

**ION GEOPHYSICAL CORPORATION AND SUBSIDIARIES**  
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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, 2012 and 2011, 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, 2012. 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, 2012 and 2011, and the consolidated results of their operations and their cash flows for each of the three years in the period ended December 31, 2012, 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, 2012, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 19, 2013 expressed an unqualified opinion thereon.

/s/ Ernst & Young LLP

Houston, Texas  
February 19, 2013

**ION GEOPHYSICAL CORPORATION AND SUBSIDIARIES**  
**CONSOLIDATED BALANCE SHEETS**

	<b>December 31,</b>	
	<b>2012</b>	<b>2011</b>
	<b>(In thousands, except share data)</b>	
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents . . . . .	\$ 60,971	\$ 42,402
Short-term investments . . . . .	—	20,000
Accounts receivable, net . . . . .	127,136	130,612
Unbilled receivables . . . . .	89,784	25,628
Inventories . . . . .	70,675	70,145
Prepaid expenses and other current assets . . . . .	25,605	13,460
Total current assets . . . . .	374,171	302,247
Deferred income tax asset . . . . .	28,414	17,645
Property, plant, equipment and seismic rental equipment, net . . . . .	33,772	24,771
Multi-client data library, net . . . . .	230,315	175,768
Investment in INOVA Geophysical . . . . .	73,925	72,626
Goodwill . . . . .	55,349	53,963
Intangible assets, net . . . . .	14,841	17,716
Other assets . . . . .	9,796	9,322
Total assets . . . . .	\$ 820,583	\$ 674,058
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
Current liabilities:		
Current maturities of long-term debt . . . . .	\$ 3,496	\$ 5,770
Accounts payable . . . . .	28,688	22,296
Accrued expenses . . . . .	124,095	61,384
Accrued multi-client data library royalties . . . . .	26,300	15,318
Deferred revenue . . . . .	26,899	33,802
Total current liabilities . . . . .	209,478	138,570
Long-term debt, net of current maturities . . . . .	101,832	99,342
Other long-term liabilities . . . . .	8,131	7,719
Total liabilities . . . . .	319,441	245,631
Redeemable noncontrolling interests . . . . .	2,123	2,615
Commitments and contingencies		
Stockholders' equity:		
Cumulative convertible preferred stock . . . . .	27,000	27,000
Common stock, \$0.01 par value; authorized 200,000,000 shares; outstanding 156,356,949 and 155,479,776 shares at December 31, 2012 and 2011, respectively, net of treasury . . . . .	1,564	1,555
Additional paid-in capital . . . . .	848,669	843,271
Accumulated deficit . . . . .	(360,297)	(423,612)
Accumulated other comprehensive loss . . . . .	(11,886)	(16,193)
Treasury stock, at cost, 849,539 shares at both December 31, 2012 and 2011 . . . . .	(6,565)	(6,565)
Total stockholders' equity . . . . .	498,485	425,456
Noncontrolling interests . . . . .	534	356
Total equity . . . . .	499,019	425,812
Total liabilities and equity . . . . .	\$ 820,583	\$ 674,058

See accompanying Notes to Consolidated Financial Statements.

**ION GEOPHYSICAL CORPORATION AND SUBSIDIARIES**  
**CONSOLIDATED STATEMENTS OF OPERATIONS**

	<b>Years Ended December 31,</b>		
	<b>2012</b>	<b>2011</b>	<b>2010</b>
	<b>(In thousands, except per share data)</b>		
Service revenues . . . . .	\$354,583	\$265,586	\$279,120
Product revenues . . . . .	171,734	189,035	165,202
Total net revenues . . . . .	<u>526,317</u>	<u>454,621</u>	<u>444,322</u>
Cost of services . . . . .	219,324	177,956	183,931
Cost of products . . . . .	91,192	103,220	94,658
Gross profit . . . . .	<u>215,801</u>	<u>173,445</u>	<u>165,733</u>
Operating expenses:			
Research, development and engineering . . . . .	34,080	24,569	25,227
Marketing and sales . . . . .	35,240	31,269	30,405
General, administrative and other operating expenses . . . . .	71,954	50,812	57,254
Total operating expenses . . . . .	<u>141,274</u>	<u>106,650</u>	<u>112,886</u>
Income from operations . . . . .	74,527	66,795	52,847
Interest expense, net . . . . .	(5,265)	(5,784)	(30,770)
Equity in earnings (losses) of INOVA Geophysical . . . . .	297	(22,862)	(23,724)
Other income (expense) . . . . .	17,124	(3,447)	(8,249)
Income (loss) before income taxes . . . . .	86,683	34,702	(9,896)
Income tax expense . . . . .	23,857	10,136	26,942
Net income (loss) . . . . .	62,826	24,566	(36,838)
Net income attributable to noncontrolling interests . . . . .	489	208	—
Net income (loss) attributable to ION . . . . .	63,315	24,774	(36,838)
Preferred stock dividends . . . . .	1,352	1,352	1,936
Net income (loss) applicable to common shares . . . . .	<u>\$ 61,963</u>	<u>\$ 23,422</u>	<u>\$ (38,774)</u>
Net income (loss) per share:			
Basic . . . . .	\$ 0.40	\$ 0.15	\$ (0.27)
Diluted . . . . .	\$ 0.39	\$ 0.15	\$ (0.27)
Weighted average number of common shares outstanding:			
Basic . . . . .	155,801	154,811	144,278
Diluted . . . . .	162,765	156,090	144,278

See accompanying Notes to Consolidated Financial Statements.

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

	<u>Years Ended December 31,</u>		
	<u>2012</u>	<u>2011</u>	<u>2010</u>
	(In thousands)		
Net income (loss) . . . . .	\$62,826	\$24,566	\$(36,838)
Other comprehensive income (loss), net of taxes, as appropriate:			
Foreign currency translation adjustments . . . . .	2,756	(28)	(266)
Equity interest in INOVA Geophysical's other comprehensive income (loss) . . . . .	1,003	315	(103)
Unrealized income (loss) on available-for-sale securities . . . . .	425	(730)	—
Other changes in other comprehensive (loss) . . . . .	123	(220)	(60)
Other comprehensive income (loss), net of taxes . . . . .	<u>4,307</u>	<u>(663)</u>	<u>(429)</u>
Comprehensive net income (loss) . . . . .	67,133	23,903	(37,267)
Comprehensive income attributable to noncontrolling interest . . . . .	489	208	—
Comprehensive net income (loss) attributable to ION . . . . .	<u>\$67,622</u>	<u>\$24,111</u>	<u>\$(37,267)</u>

See accompanying Notes to Consolidated Financial Statements.

**ION GEOPHYSICAL CORPORATION AND SUBSIDIARIES**  
**CONSOLIDATED STATEMENTS OF CASH FLOWS**

	Years Ended December 31,		
	2012	2011	2010
	(In thousands)		
Cash flows from operating activities:			
Net income (loss) . . . . .	\$ 62,826	\$ 24,566	\$ (36,838)
Adjustments to reconcile net income (loss) to net cash provided by operating activities:			
Depreciation and amortization (other than multi-client library) . . . . .	16,202	13,917	24,795
Amortization of multi-client data library . . . . .	89,080	77,317	85,940
Stock-based compensation expense . . . . .	6,598	6,344	8,147
Equity in (earnings) losses of INOVA Geophysical . . . . .	(297)	22,862	23,724
Write-down of marine equipment . . . . .	5,928	—	—
Write-down of investments . . . . .	556	1,312	7,650
Write-down of unamortized debt issuance costs and debt discount . . . . .	—	—	18,777
Fair value adjustment of warrant . . . . .	—	—	(12,788)
Loss on disposition of land division . . . . .	—	—	38,115
Deferred income taxes . . . . .	3,686	(8,131)	22,207
Excess tax benefit from stock-based compensation . . . . .	(193)	(3,294)	—
Change in operating assets and liabilities:			
Accounts receivable . . . . .	4,006	(52,955)	9,515
Unbilled receivables . . . . .	(64,156)	44,962	(48,935)
Inventories . . . . .	(7,039)	(6,641)	(16,138)
Accounts payable, accrued expenses and accrued royalties . . . . .	61,873	(7,546)	9,550
Deferred revenue . . . . .	(6,957)	15,957	7,281
Other assets and liabilities . . . . .	(3,032)	1,314	(7,634)
Net cash provided by operating activities . . . . .	169,081	129,984	133,368
Cash flows from investing activities:			
Investment in multi-client data library . . . . .	(145,627)	(143,782)	(64,426)
Purchase of property, plant and equipment . . . . .	(14,877)	(11,060)	(7,372)
Investment in seismic rental equipment . . . . .	(1,773)	—	—
Maturity (net purchases) of short-term investments . . . . .	20,000	(20,000)	—
Investment in convertible notes . . . . .	(2,000)	(6,500)	—
Proceeds from disposition of land division, net of fees paid . . . . .	—	—	99,790
Other investing activities . . . . .	—	(280)	(500)
Net cash provided by (used in) investing activities . . . . .	(144,277)	(181,622)	27,492
Cash flows from financing activities:			
Borrowings under revolving line of credit . . . . .	148,250	—	104,000
Repayments under revolving line of credit . . . . .	(51,000)	—	(193,429)
Payments on notes payable and long-term debt . . . . .	(101,702)	(6,145)	(145,558)
Net proceeds from issuance of debt . . . . .	—	—	105,695
Net proceeds from issuance of stock . . . . .	—	—	38,039
Payment of preferred dividends . . . . .	(1,352)	(1,352)	(1,936)
Proceeds from employee stock purchases and exercise of stock options . . . . .	807	13,105	1,071
Excess tax benefit from stock-based compensation . . . . .	193	3,294	—
Contribution from noncontrolling interests . . . . .	212	961	—
Other financing activities . . . . .	(1,862)	(59)	(612)
Net cash provided by (used in) financing activities . . . . .	(6,454)	9,804	(92,730)
Effect of change in foreign currency exchange rates on cash and cash equivalents . . . . .	219	(183)	72
Net increase (decrease) in cash and cash equivalents . . . . .	18,569	(42,017)	68,202
Cash and cash equivalents at beginning of period . . . . .	42,402	84,419	16,217
Cash and cash equivalents at end of period . . . . .	\$ 60,971	\$ 42,402	\$ 84,419

See accompanying Notes to Consolidated Financial Statements.

**ION GEOPHYSICAL CORPORATION AND SUBSIDIARIES**  
**CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY**

	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						
(In thousands, except shares)										
Balance at January 1, 2010	70,000	\$ 68,786	118,688,702	\$1,187	\$666,928	\$(411,548)	\$(36,320)	\$(6,565)	\$ —	\$282,468
Net loss	—	—	—	—	—	(36,838)	—	—	—	(36,838)
Translation adjustment	—	—	—	—	—	—	(266)	—	—	(266)
Change in fair value of effective cash flow hedges (net of taxes)	—	—	—	—	—	—	(60)	—	—	(60)
Equity interest in INOVA Geophysical's other comprehensive income	—	—	—	—	—	—	(103)	—	—	(103)
Accumulated translation adjustments recognized through earnings upon disposition of land division	—	—	—	—	—	—	21,219	—	—	21,219
Preferred stock dividends	—	—	—	—	(1,936)	—	—	—	—	(1,936)
Stock-based compensation expense	—	—	—	—	8,147	—	—	—	—	8,147
Modification of stock awards (disposed of land division)	—	—	—	—	1,713	—	—	—	—	1,713
Issuance of stock to BGP	—	—	23,789,536	238	105,406	—	—	—	—	105,644
Exercise of stock options	—	—	323,610	3	1,068	—	—	—	—	1,071
Vesting of restricted stock units/awards	—	—	486,168	5	(5)	—	—	—	—	—
Restricted stock cancelled for employee minimum income taxes	—	—	(76,568)	(1)	(611)	—	—	—	—	(612)
Conversion of cumulative convertible preferred stock	(43,000)	(41,786)	9,659,231	97	41,689	—	—	—	—	—
Balance at December 31, 2010	27,000	27,000	152,870,679	1,529	822,399	(448,386)	(15,530)	(6,565)	(123)	380,447
Net income(a)	—	—	—	—	—	24,774	—	—	(32)	24,651
Translation adjustment	—	—	—	—	—	—	(28)	—	—	(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
Balance at December 31, 2011	27,000	27,000	155,479,776	1,555	843,271	(423,612)	(16,193)	(6,565)	356	425,812
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

(a) Net income attributable to noncontrolling interests for 2012 and 2011 excludes \$(0.5) million and \$(0.1) million related to the redeemable noncontrolling interests, which is reported in the mezzanine equity section of the Consolidated Balance Sheet at December 31, 2012 and 2011.

See accompanying Notes to Consolidated Financial Statements.



**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, 2012 and 2011, there was \$1.5 million and \$3.3 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.

*Short-term Investments*

Short-term investments are comprised solely of bank certificates of deposit denominated in U.S. dollars with original maturities in excess of three months and represent the investment of excess cash that is available for current operations. The Company recorded these investments on its balance sheet at cost. These investments matured in February 2012.

*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:

	<u>Years</u>
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.

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 2012, 2011, and 2010, the Company capitalized, as part of its multi-client data library, \$3.8 million, \$2.4 million, and \$2.8 million, respectively, of direct internal processing costs. At December 31, 2012 and 2011, multi-client data library costs and accumulated amortization consisted of the following (in thousands):

	<u>December 31,</u>	
	<u>2012</u>	<u>2011</u>
Gross costs of multi-client data creation . . . . .	\$ 689,464	\$ 545,836
Less accumulated amortization . . . . .	<u>(459,149)</u>	<u>(370,068)</u>
Total . . . . .	<u>\$ 230,315</u>	<u>\$ 175,768</u>

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”* (“ASC 360-10”), 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, 2011 and 2010.

#### ***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.

#### ***Equity Method Investments***

The Company uses the equity method of accounting for investments in entities in which the Company has an ownership interest between 20% and 50% and exercises significant influence. 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. See further discussion regarding the Company’s equity method investment in INOVA Geophysical at Note 3 *“—Equity Method Investment in INOVA Geophysical.”*

### *Noncontrolling Interests*

The Company has both redeemable and non-redeemable noncontrolling interests. Non-redeemable noncontrolling interests in majority-owned affiliates is reported as a separate component of equity in “Noncontrolling interests” in the Consolidated Balance Sheets. Redeemable Noncontrolling Interests include noncontrolling ownership interests which the holders have 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 compared 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 8 “—*Goodwill*.”

The intangible assets, other than goodwill, relate to customer relationships and intellectual property rights. The Company amortizes its 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, 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 9 “—*Intangible Assets.*”

#### ***Fair Value of Financial Instruments***

The Company’s financial instruments include cash and cash equivalents, short-term investments, accounts and unbilled receivables, accounts payable, accrued multi-client data library royalties, investment in two convertible notes from a privately owned U.S.-based technology company, interest rate caps, long-term debt and an investment in shares of Reservoir Exploration Technology, ASA (“RXT”), a Norwegian seismic contractor. 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. The Company performs a fair value analysis of its investment in RXT based upon Level 1 inputs, utilizing quoted prices from active markets.

#### ***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.

*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).

#### ***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 16 "*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, 2012 and 2011, 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 account in 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 \$(1.9) million, \$(1.7) million and \$1.0 million for 2012, 2011, and 2010, respectively.

### ***Concentration of Foreign Sales Risk***

The majority of the Company's foreign sales are denominated in U.S. dollars. For 2012, 2011 and 2010, international sales comprised 69%, 66% and 60%, 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; and its INOVA Geophysical joint venture. For operating results of INOVA Geophysical, see Note 3 "*Equity Method Investment in INOVA Geophysical.*" The Company measures segment operating results based on income from operations. The Legacy Land Systems (INOVA) segment represents the disposed land division operations through March 25, 2010, the date of the closing of INOVA Geophysical.

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

	Years Ended December 31,		
	2012	2011	2010
Net revenues:			
Solutions:			
New Venture . . . . .	\$147,346	\$ 98,335	\$ 81,293
Data Library . . . . .	88,085	76,332	87,664
Total multi-client revenues . . . . .	235,431	174,667	168,957
Data Processing . . . . .	115,834	88,783	107,997
Total . . . . .	<u>\$351,265</u>	<u>\$263,450</u>	<u>\$276,954</u>
Systems:			
Towed Streamer . . . . .	\$ 77,769	\$111,453	\$ 83,567
Ocean Bottom . . . . .	14,823	960	1,876
Other . . . . .	39,404	40,591	28,783
Total . . . . .	<u>\$131,996</u>	<u>\$153,004</u>	<u>\$114,226</u>
Software:			
Software Systems . . . . .	\$ 39,738	\$ 36,031	\$ 34,465
Services . . . . .	3,318	2,136	2,166
Total . . . . .	<u>\$ 43,056</u>	<u>\$ 38,167</u>	<u>\$ 36,631</u>
Legacy Land Systems (INOVA) . . . . .	\$ —	\$ —	\$ 16,511
Total . . . . .	<u>\$526,317</u>	<u>\$454,621</u>	<u>\$444,322</u>
Gross profit:			
Solutions . . . . .	\$132,950	\$ 84,647	\$ 93,804
Systems . . . . .	50,790	61,109	48,557
Software . . . . .	32,061	27,689	24,356
Legacy Land Systems (INOVA) . . . . .	—	—	(984)
Total . . . . .	<u>\$215,801</u>	<u>\$173,445</u>	<u>\$165,733</u>
Gross margin:			
Solutions . . . . .	38%	32%	34%
Systems . . . . .	38%	40%	43%
Software . . . . .	74%	73%	66%
Legacy Land Systems (INOVA) . . . . .	—	—	(6%)
Total . . . . .	<u>41%</u>	<u>38%</u>	<u>37%</u>
Income from operations:			
Solutions . . . . .	\$ 88,589	\$ 50,620	\$ 60,632
Systems . . . . .	10,132	33,034	27,749
Software . . . . .	28,129	24,463	21,936
Corporate and other . . . . .	(52,323)	(41,322)	(47,847)
Legacy Land Systems (INOVA) . . . . .	—	—	(9,623)
Income from operations . . . . .	74,527	66,795	52,847
Interest expense, net . . . . .	(5,265)	(5,784)	(30,770)
Equity in earnings (losses) of INOVA			
Geophysical . . . . .	297	(22,862)	(23,724)
Other income (expense) . . . . .	17,124	(3,447)	(8,249)
Income (loss) before income taxes . . . . .	<u>\$ 86,683</u>	<u>\$ 34,702</u>	<u>\$ (9,896)</u>

	<b>Years Ended December 31,</b>		
	<b>2012</b>	<b>2011</b>	<b>2010</b>
Depreciation and amortization (including multi-client data library):			
Solutions . . . . .	\$ 98,342	\$ 84,958	\$ 96,271
Systems . . . . .	4,185	3,229	2,992
Software . . . . .	776	1,116	2,461
Corporate and other . . . . .	1,979	1,931	2,644
Legacy Land Systems (INOVA) . . . . .	—	—	6,367
Total . . . . .	<u>\$105,282</u>	<u>\$ 91,234</u>	<u>\$110,735</u>

	<b>December 31,</b>	
	<b>2012</b>	<b>2011</b>
Total assets:		
Solutions . . . . .	\$438,663	\$321,384
Systems . . . . .	156,484	179,154
Software . . . . .	45,948	38,949
Corporate and other . . . . .	179,488	134,571
Total . . . . .	<u>\$820,583</u>	<u>\$674,058</u>

	<b>December 31,</b>	
	<b>2012</b>	<b>2011</b>
Total assets by geographic area:		
North America . . . . .	\$533,035	\$463,287
Europe . . . . .	91,101	59,730
Middle East . . . . .	130,070	111,336
Latin America . . . . .	51,692	28,692
Other . . . . .	14,685	11,013
Total . . . . .	<u>\$820,583</u>	<u>\$674,058</u>

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 investment in INOVA Geophysical. 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):

	<b>Years Ended December 31,</b>		
	<b>2012</b>	<b>2011</b>	<b>2010</b>
Europe . . . . .	\$200,589	\$160,230	\$136,846
North America . . . . .	164,157	155,877	177,480
Asia Pacific . . . . .	55,028	78,777	51,496
Latin America . . . . .	46,212	12,199	45,954
Middle East . . . . .	37,471	28,227	10,536
Africa . . . . .	18,469	7,926	18,417
Commonwealth of Independent States . . . . .	4,391	11,385	3,593
Total . . . . .	<u>\$526,317</u>	<u>\$454,621</u>	<u>\$444,322</u>

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 Investment in INOVA Geophysical

In March 2010, the Company completed the disposition of most of its land seismic equipment businesses in connection with its formation of a land equipment joint venture with BGP. BGP is a subsidiary of China National Petroleum Corporation (“CNPC”) and is a leading global geophysical services contracting company. The resulting joint venture company, organized under the laws of the People’s Republic of China, was named INOVA Geophysical Equipment Limited (“INOVA Geophysical”). BGP owns a 51% interest in INOVA Geophysical, and the Company owns a 49% interest. 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 49% interest in INOVA Geophysical as an equity method investment. 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, 2011 to September 30, 2012 (“Fiscal 2012”), are included in the Company’s financial results for 2012, the Company’s share of INOVA Geophysical’s results for the period from October 1, 2010 to September 30, 2011 (“Fiscal 2011”), are included in the Company’s financial results for 2011, and the Company’s share of INOVA Geophysical’s results for the period from March 26, 2010 to September 30, 2010 (“Fiscal 2010”), are included in the Company’s financial results for 2010.

The following table reflects summarized financial information for INOVA Geophysical as of September 30, 2012 and 2011 and for Fiscal 2012, Fiscal 2011 and Fiscal 2010 (in thousands):

	<u>September 30,</u>		
	<u>2012</u>	<u>2011</u>	
Current assets . . . . .	\$138,401	\$104,291	
Non-current assets . . . . .	101,280	108,039	
Current liabilities . . . . .	78,241	38,849	
Non-current liabilities . . . . .	9,290	25,701	
Equity . . . . .	<u>\$152,150</u>	<u>\$147,780</u>	
	<u>Fiscal 2012</u>	<u>Fiscal 2011</u>	<u>Fiscal 2010</u>
Total net revenues . . . . .	\$188,336	\$138,735	\$ 47,609
Gross profit (loss) . . . . .	\$ 39,320	\$ 5,765(A)	\$(21,574)(B)
Income (loss) from operations . . . . .	\$ 3,241	\$(41,836)	\$(45,423)
Net income (loss) . . . . .	\$ 2,197	\$(46,033)	\$(48,416)

(A) Includes approximately \$15.7 million of excess inventory charge reflected in INOVA’s third quarter of 2011 and ION’s fourth quarter of 2011.

(B) Includes approximately \$19.3 million of excess inventory charge reflected in INOVA’s third quarter of 2010 and ION’s fourth quarter of 2010.

The difference between the amount of the Company’s share in INOVA Geophysical’s net income (loss) for Fiscal 2012 and Fiscal 2011 and the “Equity in earnings (losses) of INOVA Geophysical” reflected on the Consolidated Statement of Operations for the years ended December 31, 2012 and 2011 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. The Company initially defers its 49% of the net income related to these intercompany sales, which will then be recognized over time in proportion to the amortization expense of the associated data library.

#### (4) 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, 2012, 2011, and 2010 were 4,864,553, 2,974,886 and 7,721,792, respectively.

There were 27,000 shares of Series D Cumulative Convertible Preferred Stock outstanding as of December 31, 2012, which may be converted, at the holder's election, into up to 6,065,075 shares of common stock. See further discussion of the Series D Preferred Stock conversion provisions at Note 12 "*Cumulative Convertible Preferred Stock*." The outstanding shares of all Series D Preferred Stock was anti-dilutive for the years ended December 31, 2011 and 2010.

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,		
	2012	2011	2010
Net income (loss) applicable to common shares . . .	\$ 61,963	\$ 23,422	\$(38,774)
Income impact of assumed Series D Preferred Stock conversion . . . . .	1,352	—	—
Net income after assumed Series D Preferred Stock conversion . . . . .	<u>\$ 63,315</u>	<u>\$ 23,422</u>	<u>\$(38,774)</u>
Weighted average number of common shares outstanding . . . . .	155,801	154,811	144,278
Effect of dilutive stock awards . . . . .	899	1,279	—
Effect of Series D Preferred Stock . . . . .	<u>6,065</u>	<u>—</u>	<u>—</u>
Weighted average number of diluted common shares outstanding . . . . .	<u>162,765</u>	<u>156,090</u>	<u>144,278</u>
Basic net income (loss) per share . . . . .	\$ 0.40	\$ 0.15	\$(0.27)
Diluted net income (loss) per share . . . . .	\$ 0.39	\$ 0.15	\$(0.27)

#### (5) Accounts Receivable

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

	December 31,	
	2012	2011
Accounts receivable, principally trade . . . . .	\$133,847	\$131,810
Less allowance for doubtful accounts . . . . .	<u>(6,711)</u>	<u>(1,198)</u>
Accounts receivable, net . . . . .	<u>\$127,136</u>	<u>\$130,612</u>

At December 31, 2012, the Company specifically reserved \$5.6 million related to the outstanding receivables due from a marine seismic contractor. The Company has determined that the collectability of this receivable is remote.



**(6) Inventories**

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

	December 31,	
	2012	2011
Raw materials and purchased subassemblies . . . . .	\$ 49,421	\$ 45,829
Work-in-process . . . . .	8,613	8,294
Finished goods . . . . .	26,880	29,059
Reserve for excess and obsolete inventories . . . . .	(14,239)	(13,037)
Total . . . . .	<u>\$ 70,675</u>	<u>\$ 70,145</u>

The Company provides for estimated obsolescence or excess inventory charges 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 2012, 2011, and 2010, the Company recorded inventory obsolescence and excess inventory charges of approximately \$1.3 million, \$0.6 million, and \$1.6 million, respectively.

**(7) Property, Plant, Equipment and Seismic Rental Equipment**

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

	December 31,	
	2012	2011
Buildings . . . . .	\$ 15,126	\$ 15,130
Machinery and equipment . . . . .	87,127	71,550
Seismic rental equipment . . . . .	10,895	2,986
Furniture and fixtures . . . . .	3,403	3,377
Other . . . . .	3,857	1,727
Total . . . . .	120,408	94,770
Less accumulated depreciation . . . . .	(86,636)	(69,999)
Property, plant, equipment and seismic rental equipment, net . . . . .	<u>\$ 33,772</u>	<u>\$ 24,771</u>

Total depreciation expense, including amortization of assets recorded under capital leases, for 2012, 2011 and 2010 was \$12.5 million, \$9.4 million and \$15.7 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.

**(8) Goodwill**

On December 31, 2012 and 2011, 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 Company's 2012 qualitative assessment indicated that it is more likely than not that the fair value of its Software reporting unit exceeds its carrying value. The 2012 quantitative assessment indicated that the fair values of its Solutions and Marine Systems 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.

The following is a summary of the changes in the carrying amount of goodwill for the years ended December 31, 2012 and 2011 (in thousands):

	<u>Solutions</u>	<u>Software</u>	<u>Systems</u>	<u>Total</u>
Balance at January 1, 2011 . . . . .	\$ —	\$24,349	\$26,984	\$51,333
Goodwill acquired during the year . . . . .	2,701	—	—	2,701
Impact of foreign currency translation adjustments . . . . .	—	(71)	—	(71)
Balance at December 31, 2011 . . . . .	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 . . . . .	<u>\$2,943</u>	<u>\$25,422</u>	<u>\$26,984</u>	<u>\$55,349</u>

**(9) Intangible Assets**

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

	<u>December 31, 2012</u>		
	<u>Gross Amount</u>	<u>Accumulated Amortization</u>	<u>Net</u>
Customer relationships . . . . .	\$42,397	\$(28,909)	\$13,488
Intellectual property rights . . . . .	4,300	(2,947)	1,353
Proprietary technology, trade names, and patents . . . . .	19,008	(19,008)	—
Total . . . . .	<u>\$65,705</u>	<u>\$(50,864)</u>	<u>\$14,841</u>

	<u>December 31, 2011</u>		
	<u>Gross Amount</u>	<u>Accumulated Amortization</u>	<u>Net</u>
Customer relationships . . . . .	\$42,194	\$(25,529)	\$16,665
Intellectual property rights . . . . .	3,350	(2,299)	1,051
Proprietary technology, trade names, and patents . . . . .	18,985	(18,985)	—
Total . . . . .	<u>\$64,529</u>	<u>\$(46,813)</u>	<u>\$17,716</u>

Total amortization expense for intangible assets for 2012, 2011 and 2010 was \$3.9 million, \$4.5 million and \$7.4 million, respectively. A summary of the estimated amortization expense for the next five years is as follows (in thousands):

<u>Years Ended December 31,</u>	
2013 . . . . .	\$3,512
2014 . . . . .	\$2,823
2015 . . . . .	\$2,411
2016 . . . . .	\$1,962
2017 . . . . .	\$1,670

## (10) Accrued Expenses

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

	December 31,	
	2012	2011
Accrued multi-client data library acquisition costs . . . . .	\$ 47,678	\$26,871
Compensation, including compensation-related taxes and commissions . . . . .	28,993	19,398
Deferred income tax liability . . . . .	20,556	5,695
Accrued legal contingency . . . . .	10,000	—
Income tax payable . . . . .	8,348	1,211
Other . . . . .	8,520	8,209
Total accrued expenses . . . . .	<u>\$124,095</u>	<u>\$61,384</u>

## (11) Long-term Debt, Lease Obligations and Interest Rate Caps

Obligations (in thousands)	December 31,	
	2012	2011
Revolving line of credit . . . . .	\$ 97,250	\$ —
Term loan facility . . . . .	—	99,250
Facility lease obligation . . . . .	2,334	3,047
Equipment capital leases . . . . .	5,744	2,815
Total . . . . .	105,328	105,112
Current portion of long-term debt and lease obligations . . . . .	<u>(3,496)</u>	<u>(5,770)</u>
Non-current portion of long-term debt and lease obligations . . . . .	<u>\$101,832</u>	<u>\$ 99,342</u>

### *Revolving Line of Credit*

On May 29, 2012, the Company amended the terms of its senior secured credit facility (the “Credit Facility”) with China Merchants Bank Co., Ltd., New York Branch, as administrative agent and lender (“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.

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. In addition, INOVA Geophysical continues to provide a bank stand-by letter of credit as credit support for the Company’s obligations under the Credit Agreement.

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, 2012, the \$97.3 million in outstanding revolving loan indebtedness under the Credit Facility accrued interest at a rate of 2.67% 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, 2012, 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.

#### *Interest Rate Caps*

In August 2010, the Company purchased interest rate caps (the "August 2010 Caps") having an initial notional amount of \$103.3 million with a three-month average LIBOR cap of 2.0%. If and when the three-month average LIBOR rate exceeds 2.0%, the LIBOR portion of interest owed by the Company would be capped at 2.0%. The initial notional amount was set to equal the projected outstanding balance under the Company's term loan facility.

In July 2011, the Company purchased additional interest rate caps (the "July 2011 Caps"). The notional amounts of the July 2011 Caps, together with the notional amounts of the August 2010 Caps, were set so as not to exceed the outstanding balance of the Company's term loan facility over a period that extends through March 31, 2014. The Company purchased the August 2010 Caps and July 2011 Caps for a combined total of approximately \$0.7 million and initially designated the interest rate caps as cash flow hedges.

As of December 31, 2012, the Company held interest rate caps as follows (amounts in thousands):

<u>Payment Date</u>	<u>Cap Rate</u>	<u>Notional Amounts</u>		
		<u>August 2010 Caps</u>	<u>July 2011 Caps</u>	<u>Total</u>
March 29, 2013 . . . . .	2.0%	\$66,675	\$18,250	\$84,925
June 28, 2013 . . . . .	2.0%	\$ —	\$63,175	\$63,175
September 30, 2013 . . . . .	2.0%	\$ —	\$62,475	\$62,475
December 31, 2013 . . . . .	2.0%	\$ —	\$61,775	\$61,775
March 31, 2014 . . . . .	2.0%	\$ —	\$61,075	\$61,075

These interest rate caps were initially designated as cash flow hedges, and accordingly, the effective portion of the change in fair value of these interest rate caps was recognized in other comprehensive income in the Company's consolidated financial statements. Unrealized gains and losses included in accumulated other comprehensive income were then reclassified into earnings as each interest rate cap settled on the contractual payment dates.

However, as a result of the First Amendment and the conversion of the outstanding balance of the term loan to a revolving line of credit indebtedness, the interest rate caps no longer qualify for hedge accounting treatment. With hedge accounting treatment no longer available for the interest rate caps, the amounts included in accumulated other comprehensive income up through the date of the First Amendment (\$0.4 million), will instead be amortized ratably over the contractual terms of the interest rate caps. Changes in fair value of the interest rate caps following the date of the First Amendment date, which was less than \$0.1 million, have been recognized in earnings.

***Facility Lease Obligation***

In 2001, the Company sold its facilities, located 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.

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, and has 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 \$2.3 million was outstanding at December 31, 2012. 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 2015. 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 are as follows (in thousands):

<u>Years Ended December 31,</u>	<u>Long-Term Debt</u>	<u>Capital Lease Obligations</u>
2013 . . . . .	\$ 832	\$2,664
2014 . . . . .	966	2,343
2015 . . . . .	<u>97,786</u>	<u>737</u>
Total . . . . .	<u>\$99,584</u>	<u>\$5,744</u>

**(12) 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 must be paid in cash on a quarterly basis. Dividends are 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. The Series D Preferred Stock dividend rate was 5.0% at December 31, 2012.

Under the Fletcher Agreement, if a 20-day volume-weighted average trading price per share of the Company's common stock fell below \$4.4517 (the "Minimum Price"), the Company was required to deliver a notice (the "Reset Notice") to Fletcher. On November 28, 2008, the volume-weighted average trading price per share of the Company's common stock on the New York Stock Exchange for the previous 20 trading days was calculated to be \$4.328, and the Company delivered the Reset Notice to Fletcher in accordance with the terms of the Fletcher Agreement. In the Reset Notice, the Company elected to reset the conversion prices for the Series D Preferred Stock to the Minimum Price (\$4.4517 per share), and Fletcher's rights to redeem the Series D Preferred Stock were terminated. The adjusted conversion price resulting from this election was effective on November 28, 2008.

In addition, 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 a designated maximum number of shares (the "Maximum Number"), and such Maximum Number could be increased by Fletcher providing the Company with a 65-day notice of increase, but under no circumstance could the total number of shares of common stock issued or issuable to Fletcher with respect to the Series D Preferred Stock ever exceed 15,724,306 shares. The Fletcher Agreement had designated 7,669,434 shares as the original Maximum Number. In November 2008, Fletcher delivered a notice to the Company to increase the Maximum Number to 9,669,434 shares, effective February 1, 2009. On November 8, 2010, Fletcher delivered a notice to the Company to increase the Maximum Number to the full 15,724,306 shares, effective January 12, 2011.

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. The conversion price for these shares was \$4.4517 per share, in accordance with the terms of these series of preferred 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. As a result of Fletcher's delivery of its notice to increase the Maximum Number to the full 15,724,306 shares in November 2010, under the terms of the Fletcher Agreement, Fletcher's remaining 27,000 shares of Series D Preferred Stock were convertible into 6,065,075 shares of the Company's common stock. The conversion prices and number of shares of common stock to be acquired upon conversion are also subject to customary anti-dilution adjustments.

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.



### (13) 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, 2012, there were 7,928,350 outstanding options under the Company's stock option plans, and 2,938,928 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:

	<u>Option Price per Share</u>	<u>Outstanding</u>	<u>Vested</u>	<u>Available for Grant</u>
January 1, 2010 . . . . .	\$1.07 - \$16.39	7,766,188	5,042,682	410,873
Increase in shares authorized . . . . .	—	—	—	2,500,000
Granted . . . . .	3.42 - 7.19	1,249,900	—	(1,249,900)
Vested . . . . .	—	—	1,370,897	—
Exercised . . . . .	1.07 - 7.31	(323,610)	(323,610)	—
Cancelled/forfeited . . . . .	1.07 - 16.12	(970,686)	(700,561)	674,363
Restricted stock granted out of option plans . .	—	—	—	(762,680)
Restricted stock forfeited or cancelled for employee minimum income taxes and returned to the plans . . . . .	—	—	—	76,044
December 31, 2010 . . . . .	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	<u>7,928,350</u>	<u>4,591,238</u>	<u>2,938,928</u>

Stock options outstanding at December 31, 2012 are summarized as follows:

<u>Option Price per Share</u>	<u>Outstanding</u>	<u>Weighted Average Exercise Price of Outstanding Options</u>	<u>Weighted Average Remaining Contract Life</u>	<u>Vested</u>	<u>Weighted Average Exercise Price of Vested Options</u>
\$2.80 - \$4.58 . . . . .	1,400,175	\$ 3.36	6.1	1,258,425	\$ 3.36
4.90 - 7.45 . . . . .	4,783,225	\$ 6.30	8.1	1,606,613	\$ 6.31
7.76 - 13.29 . . . . .	824,500	\$ 9.96	3.6	805,750	\$ 9.96
14.03 - 16.39 . . . . .	920,450	\$15.22	5.0	920,450	\$15.22
Totals . . . . .	<u>7,928,350</u>	\$ 7.19	6.9	<u>4,591,238</u>	\$ 7.98

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

	<u>Number of Shares</u>	<u>Weighted Average Exercise Price</u>	<u>Weighted Average Grant Date Fair Value</u>	<u>Weighted Average Remaining Contractual Life in Years</u>	<u>Aggregate Intrinsic Value (000's)</u>
Total outstanding at January 1, 2012 . . . . .	6,791,300	\$ 7.42		7.1	
Options granted . . . . .	1,544,000	\$ 6.05	\$3.54		
Options exercised . . . . .	(194,410)	\$ 4.15			
Options cancelled . . . . .	(93,375)	\$ 5.98			
Options forfeited . . . . .	<u>(119,165)</u>	\$10.29			
Total outstanding at December 31, 2012 . . . . .	<u>7,928,350</u>	\$ 7.19		6.9	\$6,510
Options exercisable and vested at December 31, 2012 . . . . .	<u>4,591,238</u>	\$ 7.98		5.4	\$4,664

The total intrinsic value of options exercised during 2012, 2011, and 2010 was \$0.6 million, \$13.3 million and \$0.9 million, respectively. Cash received from option exercises under all share-based payment arrangements for 2012, 2011, and 2010 was \$0.8 million, \$13.1 million and \$1.1 million, respectively. The weighted average grant date fair value for stock option awards granted during 2012, 2011, and 2010 was \$3.54, \$4.00, and \$3.81 per share, respectively.

***Restricted Stock and Restricted Stock Unit Plans***

The Company has issued restricted stock and restricted stock units under the Company's 2004 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 2012 is as follows:

	<u>Number of Shares/Units</u>
Total nonvested at January 1, 2012 . . . . .	1,154,795
Granted . . . . .	667,000
Vested . . . . .	(764,704)
Forfeited . . . . .	<u>(23,644)</u>
Total nonvested at December 31, 2012 . . . . .	<u>1,033,447</u>

At December 31, 2012, the intrinsic value of restricted stock and restricted stock unit awards was approximately \$6.7 million. The weighted average grant date fair value for restricted stock and restricted stock unit awards granted during 2012, 2011, and 2010 was \$6.05, \$6.34, and \$6.30 per share, respectively. The total fair value of shares vested during 2012, 2011, and 2010 was \$4.6 million, \$3.3 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 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 \$0.3 million and \$0.3 million and \$0.0 million during 2012, 2011 and 2010, 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 1,265,311. 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, 2012, 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, \$0.3 million and less than \$0.1 million, respectively, of share-based compensation expense during 2012, 2011 and 2010 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,		
	2012	2011	2010
Risk-free interest rates . . . . .	0.7% - 1.0%	1.1% - 1.9%	1.5% - 2.5%
Expected lives (in years) . . . . .	5.5	5.5	5.5
Expected dividend yield . . . . .	—	—	—
Expected volatility . . . . .	67.8% - 72.2%	65.9% - 80.2%	67.4% - 71.6%

The computation of expected volatility during 2012, 2011 and 2010 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 2012, 2011 and 2010 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, 2012, 2011 and 2010 as follows (in thousands):

	Years Ended December 31,		
	2012	2011	2010
Stock-based compensation expense . . . . .	\$ 6,598	\$ 6,344	\$ 8,147
Tax benefit related thereto . . . . .	(2,056)	(1,976)	(2,633)
Stock-based compensation expense, net of tax . . . . .	<u>\$ 4,542</u>	<u>\$ 4,368</u>	<u>\$ 5,514</u>

**(14) Other Income (Expense)**

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

	Years Ended December 31,		
	2012	2011	2010
Gain on legal settlements, net (Note 21) . . . . .	\$20,895	\$ —	\$ 24,500
Loss on disposition of land division (Note 15) . . . . .	—	—	(38,115)
Fair value adjustment of warrant (Note 15) . . . . .	—	—	12,788
Write-down of investments (Note 19) . . . . .	(556)	(1,312)	(7,650)
Other income (expense) . . . . .	(3,215)	(2,135)	228
Total other income (expense) . . . . .	<u>\$17,124</u>	<u>\$(3,447)</u>	<u>\$(8,249)</u>

### **(15) Formation of INOVA Geophysical and Related Financing Transactions**

On March 25, 2010, the Company completed the transactions contemplated under two definitive agreements relating to its proposed joint venture and related transactions with BGP:

- A Stock Purchase Agreement with BGP dated as of March 19, 2010 (the “Stock Purchase Agreement”), under which ION agreed to sell 23,789,536 shares of ION’s common stock to BGP; and
- A Share Purchase Agreement with BGP dated as of March 24, 2010 (the “Share Purchase Agreement”), under which ION agreed to sell to BGP a 51% equity interest in INOVA Geophysical, thereby forming the joint venture with BGP.

The transactions under the Stock Purchase Agreement and the Share Purchase Agreement had been contemplated under the terms of a binding Term Sheet (the “Term Sheet”) dated as of October 23, 2009 between ION and BGP.

#### ***Proceeds from the Sales of ION Common Stock and Equity Interests in INOVA Geophysical***

As provided in the Stock Purchase Agreement, on March 25, 2010, ION issued to BGP 23,789,536 shares of ION’s common stock in a privately-negotiated transaction at an effective purchase price of \$2.80 per share. The \$2.80 price per share had been agreed to by the parties in the Term Sheet.

The 23,789,536 shares of ION common stock issued by ION to BGP consisted of (i) 10,204,082 shares acquired upon BGP’s conversion of the approximately \$28.6 million principal balance of indebtedness outstanding under a Convertible Promissory Note dated as of October 23, 2009 made by the Company under its then-current credit facility (the “Domestic Convertible Note”) to the order of Bank of China, New York Branch (“Bank of China”), that the Bank of China assigned to BGP in March 2010, and (ii) 13,585,454 shares that BGP purchased for \$2.80 cash per share under the Stock Purchase Agreement, resulting in total gross cash proceeds to ION from this sale of approximately \$38.0 million.

In October 2009, ION issued to BGP a warrant (the “Warrant”) to purchase shares of ION common stock. BGP elected not to exercise the Warrant and, on March 25, 2010, BGP terminated the Warrant and surrendered it to ION. After giving effect to the issuance of the total 23,789,536 shares of common stock of ION, BGP beneficially owned as of March 25, 2010, approximately 16.6% of the outstanding shares of ION common stock. As of December 31, 2012, BGP beneficially owns approximately 15.2% of ION Common Stock.

As part of the re-financing of the Company’s debt, the Company, contemporaneously with the formation of INOVA Geophysical, entered into a new credit facility, which provided the Company with approximately \$106.3 million under a new five-year term loan and approximately \$100.0 million under a new revolving line of credit (the “Credit Facility”). In connection with the approximately \$38.0 million in cash received from BGP for BGP’s purchase of 13,585,454 shares of ION common stock, the Company borrowed approximately \$191.3 million in new borrowings under the new Credit Facility, consisting of approximately \$106.3 million under a new five-year term loan and approximately \$85.0 million under a new revolving line of credit. These funds, along with certain cash on hand, were applied to repay a total of approximately \$226.0 million in existing indebtedness.

ION then applied a portion of the \$108.5 million in cash proceeds it received for BGP’s purchase of the 51% equity interest in INOVA Geophysical (see “—*Formation of ION Geophysical*” below) to repay the \$85.0 million of revolving loans that ION had borrowed to pay off the revolving indebtedness under ION’s prior bank senior credit facility.

In connection with the Stock Purchase Agreement transactions, the Company entered into an Investor Rights Agreement with BGP that provides that, among other items:

- 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 Board of Directors;
- subject to customary exceptions, BGP will have certain pre-emptive rights to subscribe for a number of shares of the Company's common stock or other securities that the Company is then offering as may be necessary to retain BGP's proportionate ownership of common stock that exists before that issuance; and
- BGP will have certain demand and piggyback registration rights with respect to resales of its shares.

#### ***Formation of INOVA Geophysical***

On March 25, 2010, ION and BGP formed the INOVA Geophysical joint venture pursuant to the Share Purchase Agreement. The assets of each party contributed to the joint venture included land seismic recording systems, inventory, certain intellectual property rights and contract rights necessary to or principally used in the conduct or operation of the land equipment businesses as conducted or operated by BGP or ION prior to closing. Under the Share Purchase Agreement, the Company sold BGP a 51% equity interest in INOVA Geophysical for total consideration of \$108.5 million cash (\$99.8 million net of fees and contributed cash balances) and BGP's transfer to the Company of a 49% equity interest in a Chinese subsidiary that held land seismic equipment assets and related liabilities. The Company and BGP then contributed their respective interests in the Chinese subsidiary to INOVA Geophysical.

#### ***Accounting Impact to the Formation of INOVA Geophysical and Related Financing Transactions***

At the closing of the joint venture, the Company recorded a loss on disposition of its land division of approximately \$38.1 million in 2010. The following components comprise this loss on disposition:

- The Company received cash proceeds from BGP of \$99.8 million, net of fees and contributed cash balances, which were part of the disposed land divisions contributed to INOVA Geophysical.
- The Company retained a 49% interest in INOVA Geophysical, which was recorded at its fair value of \$119.0 million. The fair value was determined on a discounted cash flow utilizing Level 3 inputs, with the main drivers in the calculation being INOVA Geophysical's operational five-year forecast, which included revenues, operating expenses and capital expenditures. The Company corroborated its discounted cash flow analysis with a fair value analysis of the cash and other assets contributed by BGP for its 51% interest in INOVA Geophysical.
- The Company deconsolidated \$221.7 million of net assets associated with its land division.
- The Company recognized \$21.2 million of accumulated foreign currency translation losses, primarily related to its Canada land operations.
- The Company recognized \$7.0 million of expense resulting from the sale of ION common stock to BGP at a discount to market under BGP's equity purchase commitment as an inducement for BGP to enter into the transaction.
- The Company recognized \$5.0 million of expense related to its permanently ceasing the use of certain leased facilities previously occupied by its land division. See further discussion at Note 22 "*—Restructuring Activities*".



- The Company recognized \$2.0 million of other expenses associated with the formation of INOVA Geophysical.

The following represents the impact of the other related financing transactions in the first quarter of 2010:

- The Company recorded a non-cash fair value adjustment of \$12.8 million, reflecting the decrease in the fair value of the Warrant issued to BGP in October 2009, from January 1, 2010 through March 25, 2010, the date of the formation of INOVA Geophysical. At that date, the remaining \$32.0 million liability representing the Warrant's fair value was reclassified to additional paid-in-capital. The fair value of the Warrant was based on Level 2 inputs, using a Black-Scholes model. The key inputs for the Black-Scholes model included the current market price of the Company's common stock, the yield on the common stock dividend payments 0%, risk-free interest rates, the expected term (March 2010) and the Company stock's historical and implied volatility.
- The Company recognized in interest expense the remaining non-cash debt discount of \$8.7 million, which was associated with the Company's execution and delivery of the Convertible Notes to BGP in October 2009.
- As part of the repayment of the previous revolving line of credit and term loan, the Company wrote-off to interest expense, \$10.1 million of unamortized debt issuance costs.

#### (16) Income Taxes

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

	Years Ended December 31,		
	2012	2011	2010
Domestic . . . . .	\$34,633	\$12,674	\$(55,547)
Foreign . . . . .	52,050	22,028	45,651
Total . . . . .	<u>\$86,683</u>	<u>\$34,702</u>	<u>\$ (9,896)</u>

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

	Years Ended December 31,		
	2012	2011	2010
Current:			
Federal . . . . .	\$ 873	\$ 6,594	\$(3,489)
State and local . . . . .	192	493	665
Foreign . . . . .	19,106	11,180	7,559
Deferred:			
Federal . . . . .	3,822	(4,893)	21,665
Foreign . . . . .	(136)	(3,238)	542
Total income tax expense . . . . .	<u>\$23,857</u>	<u>\$10,136</u>	<u>\$26,942</u>

A reconciliation of the expected income tax expense on income (loss) before income taxes using the statutory federal income tax rate of 35% for 2012, 2011 and 2010 to income tax expense is as follows (in thousands):

	Years Ended December 31,		
	2012	2011	2010
Expected income tax expense (benefit) at 35% . . . . .	\$30,339	\$12,146	\$ (3,464)
Foreign tax rate differential . . . . .	(5,404)	(7,858)	(11,914)
Foreign tax differences . . . . .	4,897	(2,511)	—
Formation of INOVA Geophysical . . . . .	—	—	10,507
Nondeductible financings . . . . .	—	—	1,082
State and local taxes . . . . .	192	493	665
Nondeductible expenses . . . . .	47	1,091	492
Deferred tax asset valuation allowance:			
Deferred tax asset valuation allowance on formation of INOVA			
Geophysical . . . . .	—	—	20,213
Deferred tax asset valuation allowance on equity in losses of INOVA			
Geophysical . . . . .	(104)	8,002	8,303
Deferred tax asset valuation allowance on write-down of investments .	195	459	2,677
Deferred tax asset valuation allowance on operations . . . . .	(6,305)	(1,686)	(1,619)
Total income tax expense . . . . .	<u>\$23,857</u>	<u>\$10,136</u>	<u>\$ 26,942</u>

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

	December 31,	
	2012	2011
Current deferred:		
Deferred income tax assets:		
Accrued expenses . . . . .	\$ 11,417	\$ 3,701
Allowance accounts . . . . .	5,057	3,900
Inventory . . . . .	302	457
Total current deferred income tax asset . . . . .	16,776	8,058
Valuation allowance . . . . .	(10,454)	(6,148)
Net current deferred income tax asset . . . . .	<u>6,322</u>	<u>1,910</u>
Deferred income tax liabilities:		
Unbilled receivables . . . . .	(26,863)	(7,592)
Net current deferred income tax liability . . . . .	<u>\$(20,541)</u>	<u>\$ (5,682)</u>
Non-current deferred:		
Deferred income tax assets:		
Net operating loss carryforward . . . . .	\$ 7,227	\$ 6,598
Capital loss carryforward . . . . .	19,919	19,005
Equity method investment . . . . .	33,305	33,409
Cost method investments . . . . .	4,037	3,843
Basis in identified intangibles . . . . .	4,852	3,606
Basis in research and development . . . . .	3,196	2,045
Basis in property, plant and equipment . . . . .	(2,387)	1,234
Tax credit carryforwards and other . . . . .	10,387	10,386
Total non-current deferred income tax asset . . . . .	80,536	80,126
Valuation allowance . . . . .	(52,807)	(63,327)
Net non-current deferred income tax asset . . . . .	<u>\$ 27,729</u>	<u>\$ 16,799</u>

In 2002, the Company established a valuation allowance for substantially all of its deferred tax assets. Since that time, the Company has continued to record a valuation allowance. In 2012, the Company released approximately \$6.6 million of valuation allowance associated with its U.S. deferred assets. Because, among other reasons, the Company was no longer in a recent cumulative loss position and its projections indicate that these deferred tax assets will likely be realized. However, an additional valuation allowance was established on certain U.S. deferred tax assets related to capital losses. The valuation allowance was calculated in accordance with the provisions of ASC 740, “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 capital losses or basis differences that will create capital losses, which are primarily related to our investment in INOVA Geophysical, 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, 2012, the Company had a net operating loss in the U.S. of \$3.6 million that will expire in 2032 and operating loss carry-forwards outside of the U.S. of approximately \$23.0 million, the majority of which expires beyond 2027.

As of December 31, 2012, the Company has approximately \$1.8 million of unrecognized tax benefits and does not expect to recognize any significant increases in unrecognized tax benefits during the next twelve-month period. As of December 31, 2012, all of this amount, if recognized, would affect the effective tax rate. Interest and penalties, if any, related to unrecognized tax benefits are recorded in income tax expense. For 2012, 2011 and 2010, the aggregate changes in the Company’s total gross amount of unrecognized tax benefits are summarized as follows (in thousands):

	<u>Years Ended December 31,</u>		
	<u>2012</u>	<u>2011</u>	<u>2010</u>
Beginning balance . . . . .	\$1,375	\$ 816	\$470
Increases in unrecognized tax benefits—prior year positions . . . . .	—	—	—
Increases in unrecognized tax benefits—current year positions . . . . .	459	559	346
Ending balance . . . . .	<u>\$1,834</u>	<u>\$1,375</u>	<u>\$816</u>

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.

United States income taxes have not been provided on the cumulative undistributed earnings of the Company’s foreign subsidiaries in the amount of approximately \$84.4 million as it is the Company’s intention to reinvest such earnings 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.

## (17) Supplemental Cash Flow Information and Non-cash Activity

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

	Years Ended December 31,		
	2012	2011	2010
Cash paid during the period for:			
Interest . . . . .	\$ 4,625	\$ 6,440	\$ 11,798
Income taxes . . . . .	18,146	15,473	7,263
Non-cash items from investing and financing activities:			
Transfer of inventory to seismic rental equipment . . . . .	6,737	2,978	3,606
Purchase of computer equipment financed through capital leases . . . .	4,647	2,597	555
Sale of rental equipment financed with a note receivable . . . . .	—	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	—
Expiration of BGP warrant . . . . .	—	—	32,001
Conversion of BGP Domestic Convertible Note to equity . . . . .	—	—	28,571
Investment in INOVA Geophysical . . . . .	—	—	119,000
Exchange of Reservoir Exploration Technology receivables into shares	—	—	9,516
Investment in multi-client data library financed through trade payables . . . . .	—	—	3,429

## (18) Operating Leases

*Lessee.* The Company leases certain equipment, offices, and warehouse space under non-cancelable operating leases. Rental expense was \$14.4 million, \$16.7 million, and \$15.5 million for 2012, 2011 and 2010, respectively.

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

<u>Years Ending December 31,</u>	
2013 . . . . .	\$ 8,641
2014 . . . . .	8,242
2015 . . . . .	7,955
2016 . . . . .	8,978
2017 . . . . .	8,900
Total . . . . .	<u>\$42,716</u>

## (19) Fair Value of Financial Instruments

The Company's financial instruments include cash and cash equivalents, short-term investments, accounts and unbilled receivables, accounts payable, accrued multi-client data library royalties, investment in two convertible notes from a privately-owned U.S.-based technology company, interest rate caps, long-term debt and an investment in shares of RXT.

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 carrying amount of the Company's long-term debt as of December 31, 2012 and December 31, 2011 was \$105.3 million and \$105.1 million, respectively, compared to fair value of \$105.3 million and

\$106.5 million as of December 31, 2012 and December 31, 2011, respectively. The fair value of the long-term debt was calculated using a market approach based upon Level 3 inputs, including an estimated interest rate reflecting current market conditions.

The following table provides additional information related to assets and liabilities measured at fair value on a recurring basis at December 31, 2012 and 2011. The reference to level within the table relates to the level of inputs used to determine fair value, which the key inputs are then described below. The table (in thousands) is as follows:

	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>
As of December 31, 2012:			
Investment in convertible notes . . . . .	\$ —	\$—	\$8,195
As of December 31, 2011:			
Investment in convertible note . . . . .	—	—	5,770
Investment in RXT shares . . . . .	556	—	—

*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 is \$6.5 million, and it bears interest at a rate of 4% per annum. 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, for a term of one year. The credit facility allows for conversion of the outstanding balance of the promissory note under the credit facility into common shares of the investee. As of December 31, 2012, the investee had drawn \$2.0 million under the available credit arrangement.

The Company performed 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. As of December 31, 2012, the fair value of these investments was approximately \$8.2 million, with \$0.3 million of unrealized losses recorded in accumulated other comprehensive income.

*Investment in RXT Shares.* The Company performed a fair value analysis of its investment in RXT using a market approach based upon Level 1 inputs, utilizing quoted prices from active markets. As of December 31, 2011 the fair value of the shares was \$0.6 million. During the fourth quarter of 2012, the shares again declined in value. The Company determined this decline to be other-than-temporary and therefore, wrote the shares fully off through earnings.

During 2011 and 2010, the Company determined that the declines in the fair value of this investment were other-than-temporary, which resulted in write-downs of this investment by recording charges to earnings of \$1.3 million and \$7.6 million, respectively.

**(20) 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 \$1.4 million, \$1.3 million, and \$0.9 million, during 2012, 2011 and 2010, respectively.

## (21) 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 had 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.

In June 2009, the Company filed an answer and counterclaims against WesternGeco, in which the Company denied that it had infringed WesternGeco’s patents and asserted that the WesternGeco patents were invalid or unenforceable. The Company also asserted that WesternGeco’s Q-Marine system, components and technology infringed upon a United States patent owned by the Company related to marine seismic streamer steering devices. In addition, the Company claimed that the lawsuit by WesternGeco was an illegal attempt by WesternGeco to control and restrict competition in the market for marine seismic surveys performed using laterally steerable streamers. In its counterclaims, the Company requested various remedies and relief, including a declaration that the WesternGeco patents were invalid or unenforceable, an injunction prohibiting WesternGeco from making, using, selling, offering for sale or supplying any infringing products in the United States, a declaration that the WesternGeco patents should be co-owned by the Company, and an award of unspecified monetary damages.

In June 2010, WesternGeco filed a lawsuit against various subsidiaries and affiliates of Fugro N.V. (“Fugro”), a seismic contractor customer of the Company, 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 case against the Company. 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 February 2012, the Court granted WesternGeco’s motions for summary judgment, dismissing the Company’s claims as plaintiff against WesternGeco for infringement, inventorship and inequitable conduct. 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.

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 awarding WesternGeco the sum of \$105.9 million in damages, consisting of \$12.5 million in reasonable royalty and \$93.4 million in lost profits. The Company believes that the verdict is not consistent with applicable law or the facts or evidence in the case and, in September 2012, filed motions with the trial court to overturn all or portions of the verdict.

The ultimate outcome of the case in the trial court, and the content of the final judgment as a whole, rest with the presiding trial court judge, not the jury. The next step in the case is for the trial court judge to decide post-verdict motions filed by the parties and enter a judgment. The final



judgment will determine the result of the trial prior to appeal. When he enters a judgment in the case, the judge can choose to follow the jury verdict or to take other actions, such as changing to a different result or ordering an entirely new trial. As of the filing date of this Annual Report on Form 10-K, the Court had not yet entered a judgment in the case.

If the Court enters a judgment that is adverse to the Company, 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.

In rendering its verdict, the jury determined that the Company's infringement was willful. Because the jury verdict indicated willfulness, the trial court judge will determine whether, in his independent judgment, the Company willfully infringed and he should declare this case to be "exceptional." In order for the judge to find willful infringement and declare this case exceptional, WesternGeco must prove, by clear and convincing evidence, that the Company acted with objective recklessness and in bad faith, fraudulently or engaged in similar misconduct related to the case. If the judge finds willful infringement and declares this case to be exceptional, the judge has the discretion, but not the obligation, to enhance the damages amount, not to exceed a trebling of the final judgment damages award plus reasonable attorneys' fees. The Company believes that, given its understanding and judgment of applicable law and the relevant facts and evidence in this case, and after considering the advice of counsel, it is unlikely that the Company will incur any additional loss as a result of the jury's finding of willfulness.

Based on the Company's understanding and judgment of applicable law and the facts and merits of this case, including appellate defenses, and after considering the advice of counsel, the Company has determined it is probable that, after exhaustion of all appeals, this lawsuit will result in a loss contingency to the Company in the amount of approximately \$10 million, consisting of reasonable royalty damages, interest and court costs. The Company has adequately reserved for this loss contingency.

It is reasonably possible that the Company may not ultimately prevail in the litigation and appeals process and that the Company's loss related to the lawsuit could exceed the amount currently accrued, up to the amount of the damages in the jury verdict plus interest and court costs, or even higher if the Court decides to enhance the damages as described above. However, the Company does not believe that a loss of this magnitude is probable. 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 re-assessment 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 the Company's financial statements.

As stated above, the Company intends to appeal the judgment to the United States Court of Appeals for the Federal Circuit if the trial court enters a judgment adverse to the Company. In order to appeal the judgment, the Company may be required to post an appeal bond for the full amount of damages entered in the judgment. In order to post and collateralize a bond of that size, the Company might need to utilize a combination of cash on hand, undrawn balances available under the revolving line of credit and possibly incur additional debt and/or equity financing. The posting and collateralization of such an appeal bond could have a possible adverse effect on the Company's liquidity. If the Company is unable to post the appeal bond, the Company may be unable to stay enforcement of the judgment or appeal the case. At this time, the Company is unable to determine whether an appeal bond would be required or the amount of such an appeal bond. Similarly, the Company is unable to predict the timing of the final judgment being entered by the trial court or the timing of posting any required appeal bond.

### *Fletcher*

In November 2009, Fletcher International Ltd. (“Fletcher”), the holder of the shares of the Company’s outstanding 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 our subsidiaries (incorporated in Luxembourg), in connection with a bridge loan funded in October 2009 by Bank of China, and (b) a Canadian subsidiary of the Company 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 Company 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 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 promissory notes executed and delivered by the Canadian subsidiary in September 2008 in connection with the Company’s purchase of ARAM Systems Ltd., but that 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 that the Company had violated Fletcher’s consent rights by the subsidiary’s executing and delivering the replacement promissory note without Fletcher’s consent.

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 the affiliate of D.E. Shaw & Co., Inc. in June 2012. The Company does not believe that the acquisition of the shares by an affiliate of D. E. Shaw & Co., Inc. or the bankruptcy filing by Fletcher will have a material impact on Fletcher’s lawsuit against the Company.

The Company believes that the monetary damages suffered by Fletcher as a result of the Company’s subsidiaries executing and delivering the convertible note and the replacement note without Fletcher’s consent are nonexistent or nominal, and that the ultimate outcome of the lawsuit will not result in a material adverse effect on the Company’s financial condition or results of operations.

### *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. Products of the Company or INOVA Geophysical that are compatible with the VectorSeis technology include Scorpion®, ARIES II®, FireFly®, Hawk™ and VectorSeis Ocean seismic acquisition systems. The jury concluded that Sercel infringed the Company’s patent and that the Company’s patent was valid, 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 that were based on infringing products that were manufactured and delivered by Sercel outside of the United States, but were offered for sale by Sercel in the United States and involved underlying orders and payments received by Sercel in the United States. 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. After the Company learned that Sercel continued to make sales of infringing products after the January 2010 jury verdict was rendered, the Company filed motions with the court to seek additional compensatory damages for the post-verdict infringing sales and enhanced damages as a result of the willful nature of Sercel's post-verdict infringement. 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 post-verdict 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.

### ***Greatbatch***

In 2002, the Company filed a lawsuit against operating subsidiaries of battery manufacturer Greatbatch, Inc., including its Electrochem division (collectively "Greatbatch"), in the 24th Judicial District Court for the Parish of Jefferson in the State of Louisiana. In the lawsuit, styled *Input/Output, Inc. and I/O Marine Systems, Inc. v. Wilson Greatbatch Technologies, Inc., Wilson Greatbatch, Ltd. d/b/a Electrochem Lithium Batteries, and WGL Intermediate Holdings, Inc., Civil Action No. 578-881, Division "A"*, the Company alleged that Greatbatch had fraudulently misappropriated the Company's product designs and other trade secrets related to the batteries and battery pack used in the Company's DigiBIRD® marine towed streamer vertical control device and used the Company's confidential information to manufacture and market competing batteries and battery packs. After a trial, on October 1, 2009 the jury concluded that Greatbatch had committed fraud, violated the Louisiana Unfair Trade Practices Act and breached a trust and nondisclosure agreement between Greatbatch and the Company, and awarded the Company approximately \$21.7 million in compensatory damages. A judgment was entered consistent with the jury verdict. In December 2010, the Company and Greatbatch settled the lawsuit, pursuant to which Greatbatch paid the Company \$25.0 million in full satisfaction of the judgment. Upon the cash receipt, the Company recorded a gain on legal settlement of \$24.5 million, net of fees paid to attorneys, in 2010.

### *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.

### **(22) Restructuring Activities**

Due to the formation of INOVA Geophysical, the Company consolidated certain of its Stafford, Texas-based operations, which resulted in the Company permanently ceasing to use certain leased facilities as of March 31, 2010. The Company determined that the fair value of its remaining costs to be incurred under its lease of these facilities was approximately \$8.2 million. After considering all deferred items on the Company's balance sheet associated with this lease, the Company recorded a charge to its loss on the disposition of its land equipment businesses of \$5.0 million. As of December 31, 2011, the Company had a liability of \$5.9 million. During 2012, the Company made cash payments of \$1.2 million and accrued \$0.4 million related to accretion expense, resulting in a remaining liability of \$5.1 million as of December 31, 2012.

In 2011, the Company initiated a restructuring of its Sensor geophone operations in the Netherlands, which included reducing headcount at this location by approximately 30%. As of December 31, 2011, the Company accrued a liability of \$2.4 million associated with severance costs for these employees and recorded the corresponding expense within general, administrative and other operating expenses for 2011. During 2012, the Company made cash severance payments of \$2.3 million, resulting in a remaining liability of less than \$0.1 million as of December 31, 2012.

### **(23) Selected Quarterly Information—(Unaudited)**

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

<u>Year Ended December 31, 2012</u>	<u>Three Months Ended</u>			
	<u>March 31</u>	<u>June 30</u>	<u>September 30</u>	<u>December 31</u>
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 INOVA Geophysical . . .	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 income attributable to noncontrolling interests . . .	113	281	42	53
Preferred stock dividends . . . . .	338	338	338	338
Net income applicable to common shares . . . . .	<u>\$ 8,237</u>	<u>\$ 12,039</u>	<u>\$ 14,859</u>	<u>\$ 26,828</u>
Net income per share:				
Basic . . . . .	\$ 0.05	\$ 0.08	\$ 0.10	\$ 0.17
Diluted . . . . .	\$ 0.05	\$ 0.08	\$ 0.09	\$ 0.17

Year Ended December 31, 2011	Three Months Ended			
	March 31	June 30	September 30	December 31
Service revenues	\$58,165	\$49,516	\$ 73,894	\$ 84,011
Product revenues	32,387	39,016	41,760	75,872
Total net revenues	90,552	88,532	115,654	159,883
Gross profit	31,139	33,631	44,058	64,617
Income from operations	6,071	8,800	18,496	33,428
Interest expense, net	(1,615)	(1,187)	(1,382)	(1,600)
Equity in losses of INOVA Geophysical	(860)	(4,173)	(4,811)	(13,018)
Other income (expense)	(2,999)	497	199	(1,144)
Income tax expense	147	1,085	3,484	5,420
Net income attributable to noncontrolling interests	25	44	34	105
Preferred stock dividends	338	338	338	338
Net income applicable to common shares	<u>\$ 137</u>	<u>\$ 2,558</u>	<u>\$ 8,714</u>	<u>\$ 12,013</u>
Net income per share:				
Basic	\$ —	\$ 0.02	\$ 0.06	\$ 0.08
Diluted	\$ —	\$ 0.02	\$ 0.06	\$ 0.08

#### (24) Certain Relationships and Related Party Transactions

For 2012, 2011 and 2010, the Company recorded revenues from BGP of \$13.7 million, \$34.5 million and \$16.9 million, respectively. A majority of the revenues from BGP for 2011 related to the sale of a twelve-streamer DigiSTREAMER system. Receivables due from BGP were \$1.6 million and \$15.2 million at December 31, 2012 and 2011, respectively. BGP owned approximately 15.2% (purchased in March 2010) of the Company's outstanding common stock as of December 31, 2012. For 2012, the Company paid to BGP \$2.0 million for seismic acquisition services provided on one of the Company's new venture projects. At December 31, 2012, the Company owed BGP \$9.3 million for unpaid services received for that project.

Until June 2012, the Company was a party to a support and transition agreement to provide INOVA Geophysical with certain administrative services including tax, legal, information technology, treasury, human resources, bookkeeping, facilities and marketing services. The terms of the arrangement provided for INOVA Geophysical to pay approximately \$0.3 million per month (beginning in April 2010) for services and to reimburse the Company for third-party and lease costs incurred by the Company directly related to the administrative support of INOVA Geophysical. The Company was paid \$3.5 million under this arrangement in 2012. The term of the agreement was for two years and terminated on June 30, 2012.

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 6.4% of the Company's outstanding common stock as of December 31, 2012.

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 2012, the Company paid Laitram and its affiliates a total of approximately \$4.1 million, which consisted of approximately \$3.2 million for manufacturing services, \$0.6 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 2011 and 2010 fiscal years, the Company paid Laitram and its affiliates a total of approximately \$6.3 million and \$3.1 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.

**(25) Subsequent Events**

In February 2013, the Company purchased a 30% interest in the joint venture, GeoRXT B.V. ("GeoRXT"), from RXT for \$1.5 million. GeoRXT is headquartered in Rio de Janeiro, Brazil, and specializes in seismic acquisition using ocean bottom cables. Additionally, the Company provided an \$8.0 million loan to GeoRXT, which includes a guaranty by GeoRXT's parent. GeoRXT is obligated to repay this loan to the Company on or before May 10, 2013.



**SCHEDULE II**  
**ION GEOPHYSICAL CORPORATION AND SUBSIDIARIES**  
**VALUATION AND QUALIFYING ACCOUNTS**

<u>Year Ended December 31, 2010</u>	<u>Balance at Beginning of Year</u>	<u>Disposed Reserves During the Period</u>	<u>Charged (Credited) to Costs and Expenses</u>	<u>Deductions</u>	<u>Balance at End of Year</u>
			(In thousands)		
Allowances for doubtful accounts . . . . .	\$ 5,674	\$ (4,273)	\$ 1,689	\$(2,245)	\$ 845
Allowances for doubtful notes . . . . .	71	(71)	—	—	—
Warranty . . . . .	5,088	(3,821)	443	(926)	784
Valuation allowance on deferred tax assets . . . . .	33,126	(15,897)	45,471	—	62,700
Excess and obsolete inventory . . . . .	30,618	(15,819)	1,587	(3,510)	12,876
<u>Year Ended December 31, 2011</u>	<u>Balance at Beginning of Year</u>	<u>Balance at Beginning of Year</u>	<u>Charged (Credited) to Costs and Expenses</u>	<u>Deductions</u>	<u>Balance at End of Year</u>
			(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
<u>Year Ended December 31, 2012</u>	<u>Balance at Beginning of Year</u>	<u>Balance at Beginning of Year</u>	<u>Charged (Credited) to Costs and Expenses</u>	<u>Deductions</u>	<u>Balance at End of Year</u>
			(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

# CORPORATE INFORMATION

## EXECUTIVE OFFICERS

R. Brian Hanson  
President, Chief Executive Officer  
and Director

Christopher T. Usher  
Executive Vice President and  
Chief Operating Officer, GeoScience Division

Ken Williamson  
Executive Vice President and  
Chief Operating Officer, GeoVentures Division

Lawrence Burke  
Senior Vice President,  
Global Human Resources

Gregory J. Heinlein  
Senior Vice President  
and Chief Financial Officer

Colin Hulme  
Senior Vice President,  
Strategic Marketing

Jacques Leveille  
Senior Vice President,  
ION Technology Advisor

David Moffat  
Senior Vice President,  
Marine Imaging Systems

David L. Roland  
Senior Vice President, General Counsel  
and Corporate Secretary

Michael L. Morrison  
Vice President and Corporate Controller

## BOARD OF DIRECTORS

James M. (Jay) Lapeyre, Jr.  
Chairman of the Board  
President, The Laitram Corporation

David H. Barr  
Former President and Chief Executive Officer,  
Logan International Inc

R. Brian Hanson  
President and Chief Executive Officer,  
ION Geophysical Corporation

Hao Huimin  
Chief Geophysicist, BGP Inc.,  
China National Petroleum Corporation

Michael C. Jennings  
President and Chief Executive Officer,  
HollyFrontier Corporation

Franklin Myers  
Advisory Director, Quantum Energy Partners

S. James Nelson, Jr.  
Former Vice Chairman, Cal Dive International, Inc.  
(now Helix Energy Solutions Group, Inc.)

John N. Seitz  
Founder and Vice Chairman of the Board,  
Endeavor International Corporation

## INVESTOR RELATIONS

Stockholders, securities analysts, portfolio managers, or brokers seeking information about the Company are welcome to call Investor Relations at +1.281.933.3339. If you prefer, you may send your requests to the Investor Relations e-mail address: [ir@iongeo.com](mailto:ir@iongeo.com). Recent news releases, financial information, and SEC filings can be downloaded from the Company's website at [iongeo.com](http://iongeo.com).

## ANNUAL REPORT ON FORM 10-K

ION Geophysical Corporation's Annual Report on Form 10-K for the fiscal year ended December 31, 2012, which is furnished as part of this Annual Report to Shareholders, is also available upon request without charge from: ION Geophysical Corporation, Attn: Investor Relations, 2105 CityWest Blvd., Suite 400, Houston, Texas 77042-2839.

## ANNUAL MEETING

The Annual Meeting of Stockholders of ION Geophysical Corporation will be held at the offices of the Company located at 2105 CityWest Blvd., Suite 400, Houston, Texas, on May 22, 2013, at 10:30 AM CST.

## STOCK TRANSFER AGENT

Computershare Investor Service  
2 North LaSalle St.  
Chicago, Illinois 60602

## INDEPENDENT AUDITORS

Ernst & Young LLP  
5 Houston Center Suite 1200  
1401 McKinney St.  
Houston, Texas 77010  
713.750.1500

## CEO AND CFO CERTIFICATES

The Company has included as Exhibit 31 to its Annual Report on Form 10-K for the fiscal year ended December 31, 2012, filed with the Securities and Exchange Commission, certificates of the Chief Executive Officer and Chief Financial Officer of the Company certifying the quality of the Company's public disclosure and the Company has submitted to the New York Stock Exchange a certificate of the Chief Executive Officer of the Company certifying that he is not aware of any violation by the Company of the New York Stock Exchange corporate governance listing standards.

## FORWARD-LOOKING STATEMENTS

The information included herein contains certain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. These forward-looking statements include statements concerning expected future financial positions, sales, results of operations, cash flows, funds from operations, financing plans, gross margins, business strategy, budgets, projected costs and expenses, capital expenditures, competitive position, product offerings, technology developments, access to capital and growth opportunities, results of litigation, cash needs and sources of cash, including availability under the Company's revolving line of credit facility, compliance with debt financial covenants, sales and market growth, benefits to be obtained by the Company from the INOVA and GeoRXT joint ventures, and other statements that are not of historical fact. Actual results may vary materially from those described in these forward-looking statements. All forward-looking statements reflect numerous assumptions and involve a number of risks and uncertainties. These risks and uncertainties include risks related to pending and future litigation; risks of audit adjustments and other modifications to the Company's financial statements not currently foreseen; risks of unanticipated delays in the timing and development of the Company's products and services and market acceptance of the Company's new and revised product offerings; risks associated with economic downturns and volatile credit environments; risks associated with the performance of INOVA and GeoRXT; risks associated with the Company's level of indebtedness, including compliance with debt covenants; risks associated with competitors' product offerings and pricing pressures resulting therefrom; risks associated with the fact that a significant portion of the Company's revenues is derived from foreign sales; risks regarding international, political, and economic events and turmoil; risks that sources of capital may not prove adequate; risks regarding the Company's inability to produce products to preserve and increase market share; risks related to collection of receivables; and risks related to technological and marketplace changes affecting the Company's product line. Additional risk factors, which could not affect actual results, are disclosed by the Company from time to time in its filings with the Securities and Exchange Commission, including its Annual Report on Form 10-K for the year ended December 31, 2012.





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