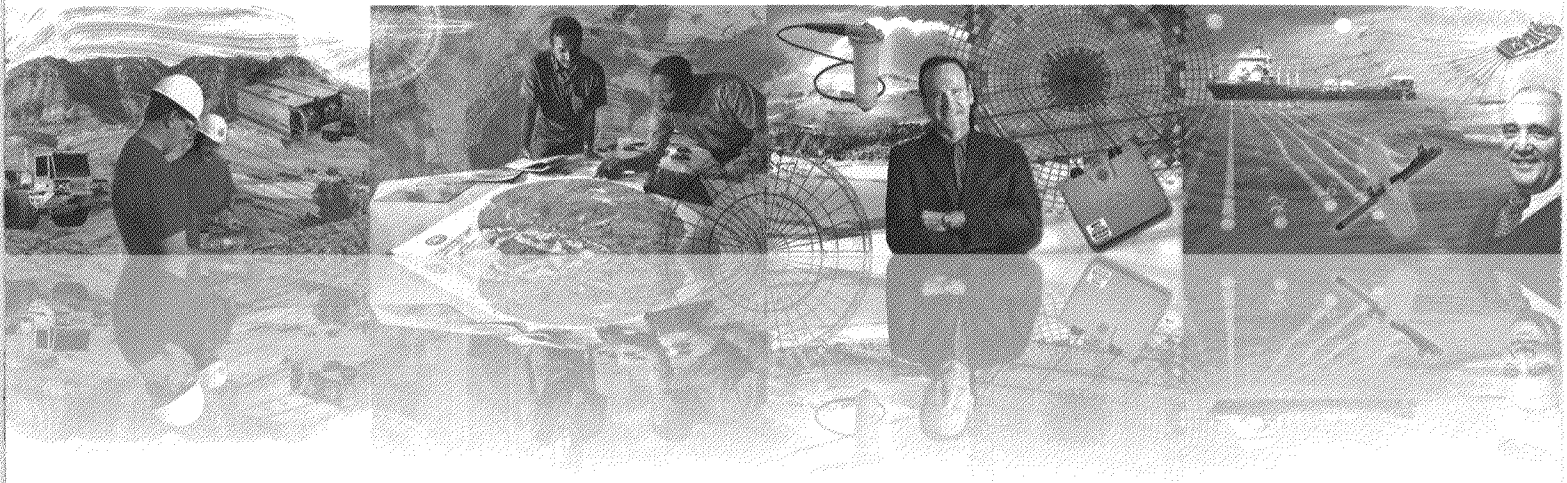


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[ 40 YEARS OF INNOVATION ]

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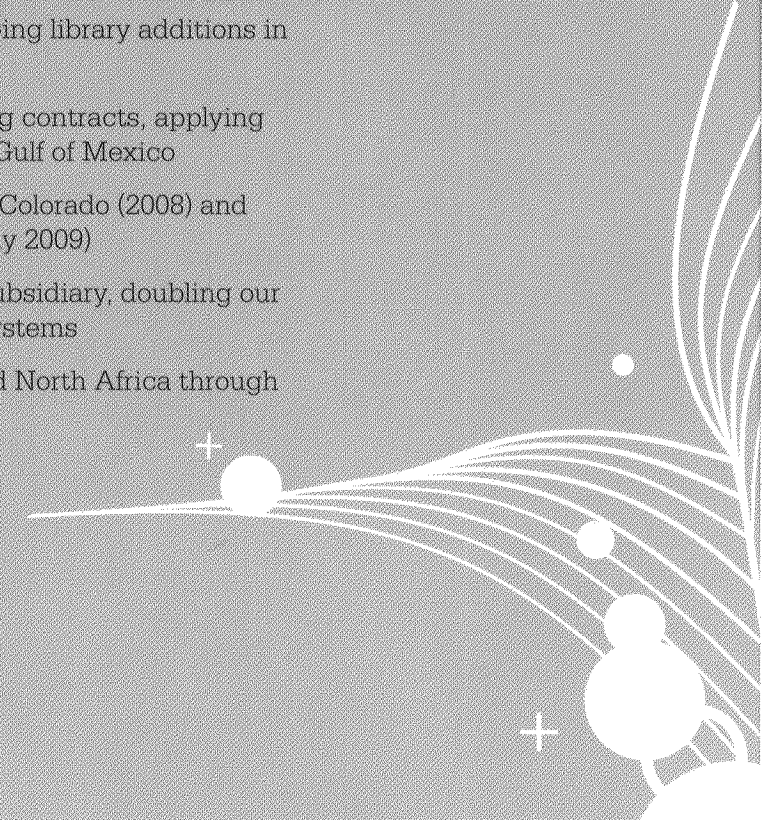
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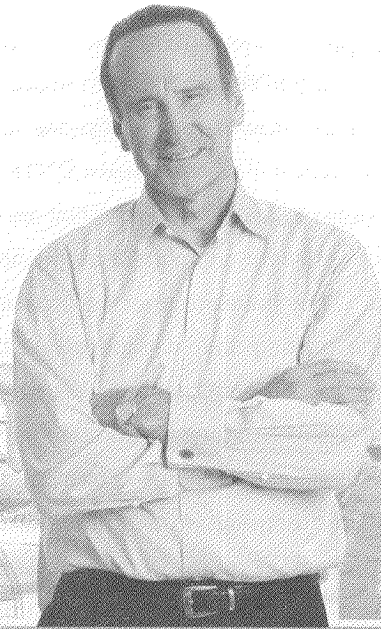
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## 2008 MILESTONES

- >> Most profitable year ever for Concept Systems and Marine Imaging Systems
  - >> Fleetwide commitments for [Intelligent Acquisition] streamer technologies from PGS, Fugro, and Polarcus
  - >> Record revenues from BasinSPANs, with ongoing library additions in Brazil, the Arctic, and southeast Asia
  - >> Awarded two 'largest-ever for GXT' processing contracts, applying full-wave imaging in Nigeria and RTM in the Gulf of Mexico
  - >> Commercialized FireFly, with deployments in Colorado (2008) and China, Mexico, and the Haynesville shale (early 2009)
  - >> Acquired ARAM Systems Ltd and its rental subsidiary, doubling our market share in cable-based land recording systems
  - >> Opened data processing centers in Russia and North Africa through our local partners - Largeo and Guide
- 

**Robert P. Peebler**  
Chief Executive Officer



## [ LETTER TO THE SHAREHOLDERS ]

**F**or ION, 2008 was a year of tremendous contrasts. Buoyed by record high oil prices and marked by significant exploration and development activity, the first three quarters of the year were highly encouraging. All key indicators suggested that we were on our way to meeting or even exceeding our annual objectives. Revenues were up both in the third quarter (by 26% year-on-year) and year-to-date for the first three quarters (by 7%). Gross margins had improved. Operating expenses were flat. Our effective tax rate had fallen. And then, unfortunately, we began to feel the effects of the global economic meltdown.

As weakness began to reverberate through all sectors and regions within the global economy, the demand for crude oil, natural gas, and refined products began to fall accordingly. Despite actions by OPEC to cut supply, its members couldn't keep pace with the rapid decline in demand. As a result, oil prices dropped precipitously from a July 2008 peak of \$147 per barrel to roughly \$40 as I write this letter in early March 2009. Given the uncertainty about the health of the global economy and the timing and pace of recovery, our customers began to cut back on their capital budgets, albeit to different extents, as 2008 drew to a close.

In North America, many of the E&P companies have slashed 2009 spending by upwards of 30%. They are accustomed to funding their exploration and drilling programs out of free cash flow and, in some cases, by applying significant amounts of leverage. With commodity prices falling and credit drying up, these companies have been forced to rethink their spending patterns. In Russia, we have seen similar effects and responses. Very quickly and in many regions, the cutbacks by the E&P companies began to cascade through the oil field services and equipment companies, including the seismic contractors who buy our equipment and the companies like ION that supply them. As the number of new seismic projects fell off and as crew and vessel utilization began to decline, the demand for new seismic acquisition technology dropped off as well. Since many of the seismic contractors depend heavily on the credit markets to finance new equipment purchases, they have been hit by the 'double whammy' of declining demand for their services and an inability to fund new equipment purchases even when warranted.

Yet not every segment or region has been affected in the same way. The China E&P sector has held up remarkably

well, with many of the state-owned enterprises viewing the downturn as an opportunity to secure resource access and to position themselves for growth in the decades ahead. Most of the largest international oil companies (IOCs) have kept their capital budgets reasonably steady. They are often involved in long-term projects with mandated ongoing capital commitments. They have stronger balance sheets and cash flow positions, making them capable of sustaining spending even in this difficult environment. Yet even the IOCs are making some changes in their expenditure patterns. For instance, they are feeling less compelled to commission new, proprietary seismic acquisition programs and are more inclined to reprocess existing seismic datasets in search of the next prospect or insight. This mix shift impacts ION by adversely affecting our Systems' businesses while benefiting GXT Imaging Solutions.

### [ Financial Performance ]

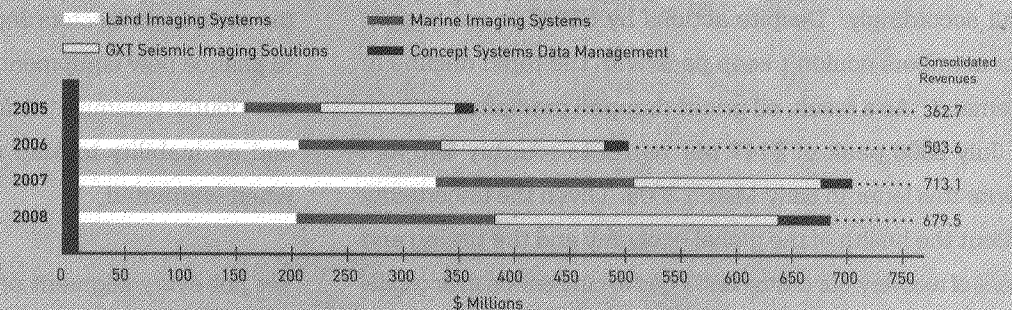
ION was buffeted by these dramatic market forces during the fourth quarter. Our revenues declined by 33% compared to the year-earlier period, a falloff entirely associated with our Systems group that sells geophysical hardware and software to seismic acquisition contractors. Though our Marine Systems business saw a decrease in fourth quarter revenues of \$12 million compared to the year-earlier period, the primary driver of ION's revenue decline was our Land Systems business. In Land Systems, including the revenues from the ARAM acquisition which closed in September 2008, fourth quarter revenues dropped by \$59 million to roughly

30% of the level of the year-earlier period. In contrast, our Solutions group, which sells data processing services and seismic data libraries to oil & gas companies, saw fourth quarter revenues increase by 6% compared to the fourth quarter of 2007.

When the solid performance of ION's first three quarters of 2008 is combined with the rapid deceleration we experienced in the fourth quarter, we ended the year with revenues of \$680 million, a decline of 5% versus 2007. In the fourth quarter, we took several special charges related to asset impairments, increased reserves for bad debts, restructuring, and our convertible stock. When these special charges are excluded, our company generated Income from Operations of \$68 million for 2008; this translates to adjusted, diluted earnings per share of \$0.50 for the year. These metrics compare to Income from Operations of \$64 million and earnings per diluted share of \$0.45 in 2007. A reconciliation of these special charges can be found in the tables to our 2008 Year-end Results press release issued on February 26, 2009.

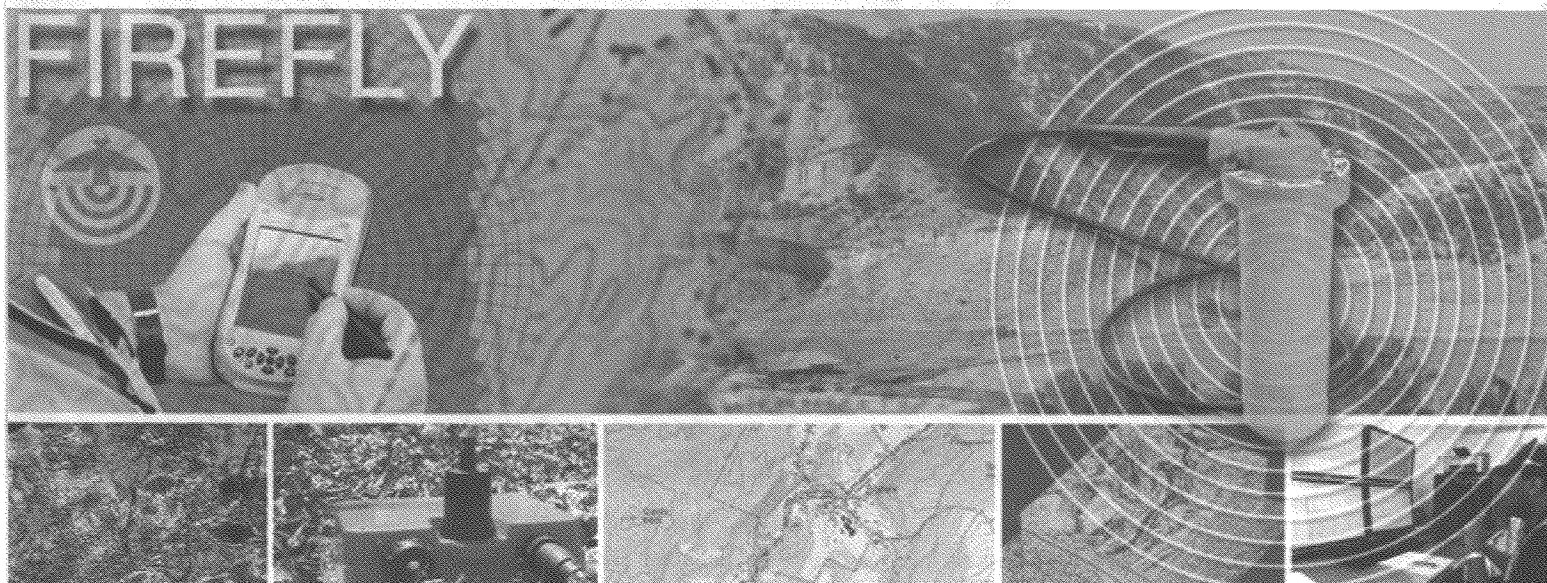
Clearly this wasn't the performance we were hoping to deliver when the year started. Later in this letter, I'll share some of the actions we are taking to ensure the health of ION Geophysical in this challenging economic environment and to provide a platform for growth when the economic recovery begins. Before we get into these items, I do think it is appropriate to reflect on several of the considerable achievements our company attained in 2008. These milestones serve to showcase the underlying health of our business, the accomplishments

### [ ANNUAL REVENUES ]



of our world-class technology teams, and the progress we've made against the vision for ION that was laid out in 2003. In addition, they provide a preview of what's likely to come as the recovery in the oil & gas markets takes hold in the quarters ahead.

early images from the survey look very promising and may allow us to sell the Durham Ranch data library to several other prominent E&P companies who are interested in learning more about how to image fractured shales in the Piceance and Green River basins of the Rocky Mountains.



### [ Business Highlights ]

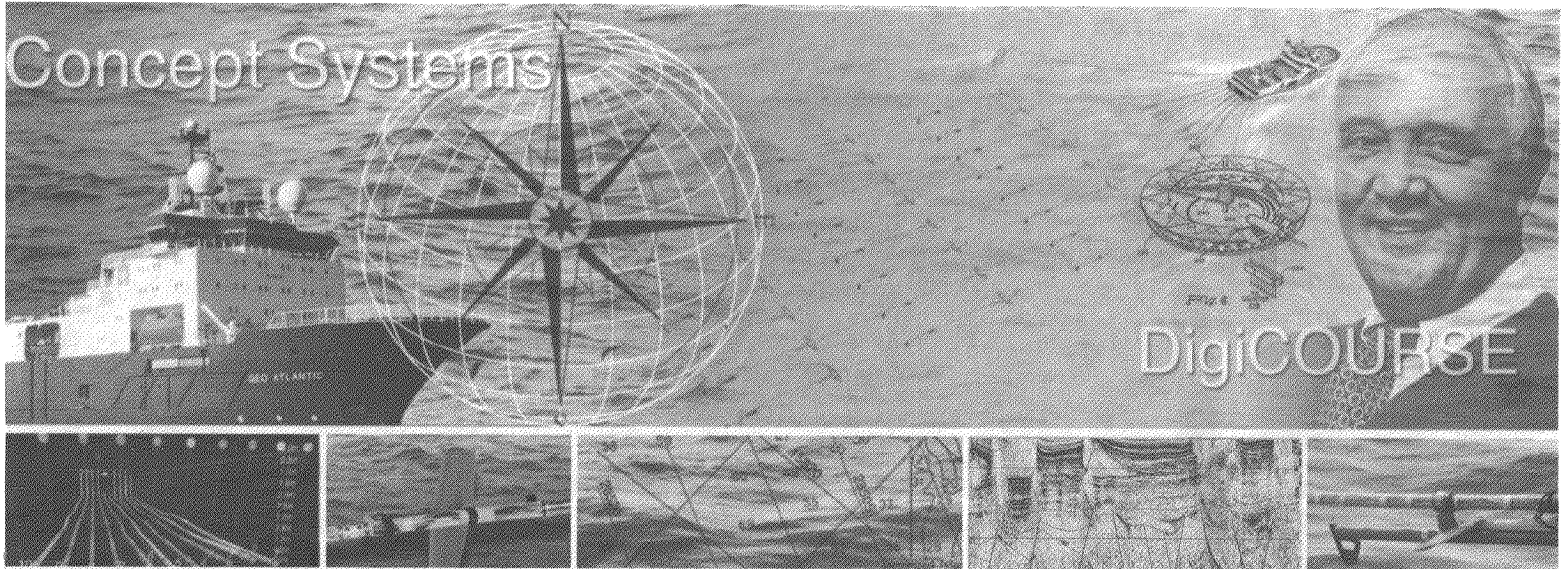
Let's start first with our land businesses. Our 'Durham Ranch' FireFly® survey in northwest Colorado stands out as a key milestone. We approached this full-wave survey as a multi-client data library project, our first ever onshore. Our lead underwriter, a privately held E&P company, was trying to image a fractured shale reservoir in an environmentally sensitive area with a strict timing window during which seismic operations could take place. Our hardware engineers addressed the power and telecom issues that were identified in the initial 'Version 1' field trials with BP and Apache, while our software team at Concept Systems improved the functionality and usability of Connex™, the command & control system that acts as the brain of FireFly. Our Integrated Seismic Solutions (ISS) group acted as the overall project manager, ensuring that the acquisition contractor delivered the project on time and within budget. GXT is now processing the data using state-of-the-art techniques to identify subtle faulting, fracturing, and stratigraphic changes within the target reservoir. The

Our success with full-wave has carried over to China, where our customers are extending their commitments to the next generation of land imaging technologies from ION. Building on our success in recent years with an affiliate of Sinopec at Xin Chang, the company commissioned an even larger full-wave survey in the second half of 2008. This 10,000 station project was acquired using our Scorpion® system and was completed 45 days ahead of schedule, demonstrating the success our engineering team had in delivering an improved Scorpion platform while highlighting the commitment our field service personnel had to ensuring a successful outcome.

In January 2009, we announced our first commercial delivery of a sizeable FireFly system. One of China's major seismic contractors is now in the process of deploying this system in the Qaidam Basin, a remote area in Inner Mongolia. This Qaidam deployment is one of three FireFly projects that we

will be supporting in early 2009, along with two other large programs that are planned in the southern Mexican state of Tabasco (just onshore of Cantarell, one of the world's

can always apply 20/20 hindsight, I believe we will navigate through these troubled financial waters and confirm that the ARAM transaction was a good decision.



largest reservoirs) and the Haynesville shale play in East Texas.' The latter is notable in that BP is championing a series of FireFly-based full-wave imaging projects in the Haynesville, one of North America's hottest resource plays.

Last September, we welcomed ARAM to the ION family. Given the looming financial crisis, our timing created additional challenges. When people ask me if, looking back, would I still have gone through with the acquisition, my answer is both yes and no. On the one hand, if I had foreseen the credit market implosion and its impact on our ability to raise money in the bond market, I probably would not have gone through with the transaction; the resulting debt has added a level of risk to our balance sheet that I'd prefer not to be carrying in these uncertain times. On the other hand, and from a strategic perspective, we urgently needed to address our cable-based land seismic business, which had suffered through an extended period of cost and reliability issues that had tarnished our reputation and our brand. ARAM offered us a way to strengthen our position in the land systems segment; something that is critical to our overall strategy and long-term financial performance. While one

Despite coming together in such uncertain times, I have been truly impressed with the commitment shown by the ARAM leadership team in making our 'marriage' work. Our engineering teams have already engaged in a series of discussions about how to bring our product platforms together. Among other things, several great options have emerged to incorporate VectorSeis® into ARIES® and to make ARIES interoperable with FireFly so we can offer a hybrid cabled-cableless system to contractors. In addition, we're learning from ARAM about best practices in product design, manufacturing, quality assurance, and field service, all areas we had flagged for improvement before the acquisition was ever contemplated. I might also add that, by consolidating our land division within ARAM, we have been able to significantly reduce our cost base and position our land business for sustained profitability.

In the marine area, we had our best year on record for Marine Imaging Systems, including our Concept Systems group. Our promotion of the [Intelligent Acquisition]™ concept for streamer seismic has taken hold in the market and is helping to differentiate ION from the competition, drive the ongoing

commercialization of both DigiFIN™ and Orca®, and establish extended fleet-wide commitments from PGS, Fugro, and Polarcus. The other big success involves our ability to build oil & gas company awareness for these [IA] technologies. Our marine group has done a great job in promoting [IA] at trade shows and in partnering with our sales team such that the E&P firms are beginning to specify our technologies in new streamer acquisition programs and, in some cases, are actually offering to pay for [IA] deployment on contractor vessels.

Our [IA] technologies are critical for the oil & gas companies, even more so now as the entire E&P sector is forced to operate in a budget-constrained environment. That's because two [IA] systems – Orca and DigiFIN – work together to steer the streamer cables and reduce something called infill (or the empty patches that occur when the streamer cables drift apart and aren't able to receive enough reflected acoustic energy to properly image the subsurface). Our ability to reduce infill is critical, as the cost to oil & gas companies of going back and reshooting the empty patches can account for upwards of 30% of their total acquisition cost. If we can steer the streamer cables and reduce the reshoots, we'll help our customers preserve their capital for other E&P projects.

In the imaging world, GXT continues to solidify our leadership position as the premier global data processing provider for the most challenging imaging problems. Reverse Time Migration (RTM) has been a major 'calling card' that has helped us extend our services in existing and new client situations and geographies. We've now demonstrated our ability to apply RTM in wide-azimuth (WAZ) situations, which has led to major contract awards from marquee customers looking to develop high-profile discoveries. While it fell a bit under the radar at the client's request, these technology successes and the relationships our GXT team had established with HESS Corporation led this important energy company to award us a multi-project contract in the Gulf of Mexico that will total in excess of \$50 million over the next several years. This is our largest-ever contract award in data

processing by an order of magnitude and really changes the way we can approach our business. We've also been able to refine our international 'franchise' concept, having now established beachheads in West Africa, North Africa, and Russia through our Bulwark, Guide, and Largeo partnerships. In the area of full-wave imaging, we've had great success serving onshore operators in China and the U.S. as well as with the ongoing VectorSeis Ocean (VSO) program that is underway for ExxonMobil offshore Nigeria.

Our ISS business continues to thrive. We're still identifying new areas that require our BasinSPAN™ product, with our 2008 program offshore Brazil as just one example. Brazil has emerged as one of the world's most promising exploration plays, driven by the discoveries of elephant fields in the Santos Basin. BrazilSPAN™ allows oil & gas companies exploring in this region to better understand the evolution of this petroleum system over the course of geologic time. What's nearly as exciting is that we have been able to reconstruct what are called the 'conjugate ties' between the South American and African continents. Long ago, these two continents were joined together. Forces associated with plate tectonics and continental drift eventually drove them to their present-day positions. Yet by interpreting and correlating the ultra-deep, basin-scale data present within our BrazilSPAN and AfricaSPAN™ data libraries, we can reconstruct the depositional histories of important basins on both sides of the Atlantic and derive insights about analog exploration prospects that might exist half a world away.

At the same time, we continue to expand existing programs such as ArcticSPAN™, to cross-sell SPAN licenses in new basins to existing customers, and to introduce new customers to the SPAN concept through both conventional and innovative commercial models. We now have a broad portfolio of value-adding data libraries that have created a recurring revenue stream for the corporation, providing a welcome buffer in periods of market volatility such as we are currently experiencing. Earlier I mentioned the ISS team's work on the Durham Ranch project, our first-ever ISS project onshore, but

the ISS team has also been hard at work to secure multi-client programs in other onshore areas. In my opinion, these successes demonstrate that the BasinSPAN concept has lots of running room worldwide both offshore and onshore.

All of these achievements, and many more that I didn't have the space to mention, showcase that ION is helping to address our customers' most fundamental imaging and operational challenges. We're thought of as the ones to turn to for creative ideas and innovative solutions. That is tremendous progress for our company, as we weren't always the ones that ConocoPhillips looked to first when they wanted to deploy a new streamer geometry, or that Hess turned to for their most challenging depth imaging projects, or that BP or Sinopec thought of for end-to-end land imaging solutions. Having laid this foundation, with roots extending to so many regions, clients, and technologies, ION should be prepared to weather the current economic downturn and emerge well positioned once the recovery begins.

### [ Improvement Actions ]

While we continue to look to the future and invest in technology platforms we think our customers will require, we can't ignore the present challenges facing the company. To

that end, we've taken a number of significant actions to position ION to weather the storm. I'd like to share just a few of these with you.

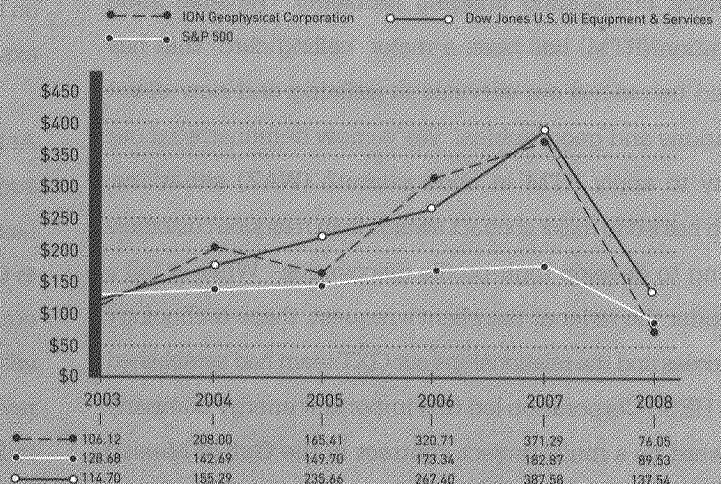
First, we have reduced our operating cost base significantly. We implemented a company-wide reduction in force that eliminated 20% of our corporate staff. We also accelerated the integration of ARAM and our legacy land systems business, which helped to eliminate duplicate positions in engineering, manufacturing, and field support. And we have focused our R&D investments on those projects we believe have the greatest market potential, both short-term and in the future. Collectively, these actions have reduced our company-wide headcount by 13%. We have very strict guidelines on new hiring, compensation, and travel expenses that we believe will sustain our operating expense run-rate at current levels.

Second, we have focused the entire organization on cash generation and preservation. We are moving to collect receivables from slow-paying clients, tightening the terms under which we enter into new transactions, and working diligently to draw down our inventory levels in all of our business lines. As a result of these actions, we believe we have sufficient cash on hand (and available to us through our credit lines) to meet the requirements of running the

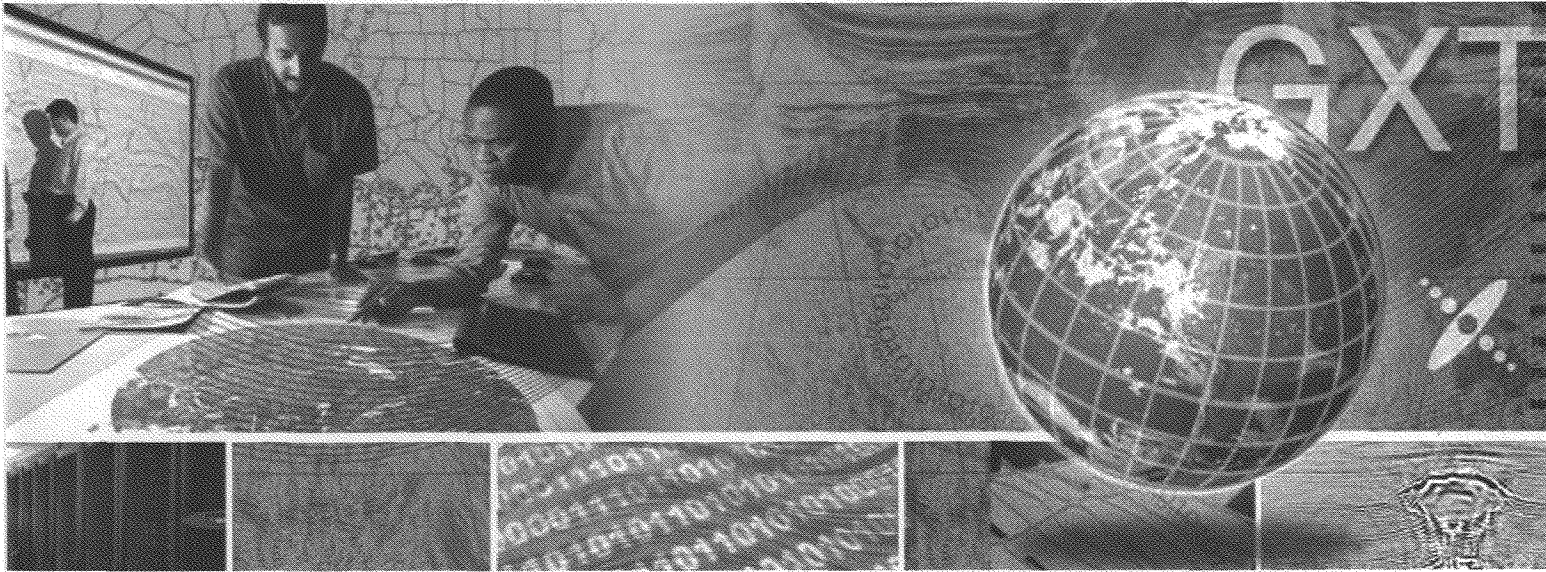
### [ SHAREHOLDER RETURNS ]

This graph compares our cumulative total stockholder return on our common stock for the five years ending December 31, 2008, 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, 2004. 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.







business while still making the investments that we believe will pay off in the future.

Third, we have simplified our organizational structure. At my recommendation, in December the Board appointed Jim Hollis to be our President and Chief Operating Officer. All of our business units and our global business development team now report to Jim, which simplifies communications and speeds decision making. Jim has been with the company since 2003 and at various times has been the executive-in-charge of our Land Imaging Systems, FireFly New Ventures, and ION Solutions (GXT Imaging and ISS) businesses. We have also placed our Land Imaging Systems business unit under the leadership of Chris Chamberlain and his management team from ARAM.

I've been in the oil & gas industry for four decades now and have seen my share of industry cycles, both up and down. However, I can assure you that I've never seen a down-cycle like this one. It came on quickly and, for most of us, unexpectedly. One minute we were talking about 'Peak Oil' prices of \$200 (or more) per barrel, and the challenges of hiring the talent we needed to staff the business; shortly thereafter, we found ourselves in the grips of a global crisis in which words like Depression and Doomsday entered the daily lexicon. While the crisis adversely impacted our financial performance and forced us to take actions we hadn't planned for, I believe that the ION management team has the company well prepared for both the present and the future, whatever storms might cross our path. As always, I want to thank you, our shareholders, for being a part of our journey.

Bob Peebler  
Chief Executive Officer

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, 2008

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:**

<u>Title of Each Class</u>	<u>Name of Each Exchange on Which Registered</u>
Common Stock, \$0.01 par value	New York Stock Exchange
Rights to Purchase Series A Junior Participating Preferred Stock	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 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

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

As of June 30, 2008 (the last business day of the registrant's second quarter of fiscal 2008), the aggregate market value of the registrant's common stock held by non-affiliates of the registrant was \$1.481 billion based on the closing sale price on such date as reported on the New York Stock Exchange.

Indicate the number of shares outstanding of each of the registrant's classes of common stock, as of the latest practicable date: common stock, \$.01 par value, 99,735,028 shares outstanding as of February 12, 2009.

**DOCUMENTS INCORPORATED BY REFERENCE**

**Document**

**Parts Into Which  
Incorporated  
Part III**

Portions of the Proxy Statement for the Annual Meeting of Stockholders to be held May 27, 2009

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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 Annual Report on Form 10-K, “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.

### Item 1. *Business*

We are a technology-focused seismic solutions company that provides advanced seismic data acquisition equipment, seismic software, and seismic planning, processing, and interpretation services to the global energy industry. Our products, technologies, and services are used by oil and gas exploration and production (E&P) companies and seismic acquisition contractors to generate high-resolution images of the subsurface during exploration, exploitation, and production operations. Our products and services are intended to measure and interpret seismic data about rock and fluid properties within the Earth’s subsurface, which enables oil and gas companies to make improved drilling and production decisions. The seismic surveys for our data library business are substantially pre-funded by our customers and we contract with third party seismic data acquisition companies to acquire the data, all of which minimizes our risk exposure. We are able to serve oil and gas companies in all major energy producing regions of the world from strategically located offices in 22 cities on five continents. Our products and services include the following:

- land and marine seismic data acquisition equipment,
- navigation, command & control, and data management software products,
- planning services for survey design and optimization,
- seismic data processing services, and
- seismic data libraries.

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 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.

ION has been involved in the seismic technology industry for approximately 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 products, technologies, and services. See Item 7 – “*Management’s Discussion and Analysis of Financial Condition and Results of Operations — Executive Summary*” for a list of certain developments in our business in 2008 and early 2009.

We operate our company through four business segments. Three of these segments — Land Imaging Systems, Marine Imaging Systems and Data Management Solutions – make up our ION Systems division. The fourth segment is our ION Solutions division.

- *Land Imaging Systems* – cable-based, cableless, and radio-controlled seismic data acquisition systems, digital and analog geophone sensors, vibroseis vehicles (i.e. vibrator trucks), and source controllers for detonator and vibrator energy sources.
- *Marine Imaging Systems* – towed streamer and redeployable ocean bottom cable seismic data acquisition systems and shipboard recorders, streamer positioning and control systems, and energy sources (such as air guns and air gun controllers).

- *Data Management Solutions* – software and related services for navigation and data management involving towed marine streamer and seabed operations.
- *ION Solutions* – advanced seismic data processing services for marine and land environments, our marine seismic data libraries, and our Integrated Seismic Solutions (ISS) services.

Our executive headquarters are located at 2105 CityWest Boulevard, Suite 400, Houston, Texas 77042-2839. 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. It should not be relied upon for investment purposes, nor is it 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, 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**

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 a streamer cable on 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, 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.

Until the early 1980s, the primary commercial seismic imaging technology was two-dimensional, or 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 allowed 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 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.

As commodity prices decreased and the pace of innovation in 3-D seismic imaging technology slowed in the late 1990s, E&P companies slowed the commissioning of new seismic surveys. Also, business practices employed by geophysical contractors in the 1990s 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. Contractors typically selected an area, acquired data using generic acquisition parameters and generic processing algorithms, capitalized the acquisition costs, and attempted to sell the survey results to multiple 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.

The fundamentals of the oil and gas exploration and production industry and the seismic sector improved markedly beginning in 2004. As commodity prices increased, E&P companies increased their capital investment programs, which drove higher demand for our products and services. In July 2008, oil prices reached an all-time high of nearly \$150 per barrel. Sentiment changed dramatically in September 2008 as adverse global economic conditions began to affect demand for a wide variety of products and services throughout the world, including the demand for both oil (and refined products, such as gasoline) and natural gas. By the end of 2008, oil prices had fallen to roughly \$40 per barrel, and E&P companies began to curtail their investment programs, announcing spending cuts that exceeded 30% in some cases. As a consequence, seismic acquisition contractors began to scale-back their investments in new seismic hardware and software, while E&P companies moved to optimize their spending on seismic data processing services and the purchase of seismic data libraries. See Item 7 – *“Management’s Discussion and Analysis of Financial Condition and Results of Operations —”* for further information.

### **ION Geophysical’s Business Strategy**

Beginning in 2004 and continuing until the fourth quarter of 2008, we observed increased spending for seismic services and equipment by E&P companies and seismic contractors, driven in part by an increase in commodity prices. A decline in the number and size of new discoveries, production declines in known reservoirs, and expanded demand for hydrocarbons had increased the pressure on E&P companies to discover additional fields and optimize the recovery of those already on production. Until the fourth quarter of 2008, this increasing exploration activity combined with higher commodity price levels increased the demand for seismic technology and services. Additionally, E&P companies were focusing on hydrocarbon reservoirs located in deeper waters or deeper in the geologic column. These reservoirs are generally more complex or subtle than the reservoirs that were discovered in prior decades and are located in unconventional reservoir types such as tar sand deposits or “tight gas” locked within hard rock, low permeability shales. 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. Moreover, as E&P companies may increasingly use seismic data to enhance production from known fields by repeating time-lapse seismic surveys over a defined area, we believe that seismic companies such as ION can benefit because the repeat application of seismic extends the utility of subsurface imaging beyond exploration and into production monitoring, which can last for decades.

We also believe that E&P companies will increasingly use seismic technology providers who will collaborate with them to tailor surveys that address specific geophysical problems and to apply advanced digital sensor and imaging technologies to take

into account the geologic peculiarities of a specific area. In the future, we expect that these companies will rely less on undifferentiated, mass seismic studies created using analog sensors and traditional processing technologies that do not adequately identify geologic complexities.

In 2004, we acquired two companies, which were important in our evolution from being primarily a seismic equipment provider to becoming a broad-based seismic solutions provider:

- Our acquisition of Concept Systems Holdings Limited (Concept Systems) and its integrated planning, navigation, command & control, and data management software and solutions for towed streamer and seabed operations; and
- Our acquisition of GX Technology Corporation (GXT), and its advanced seismic data imaging solutions services and seismic data libraries for the marine environment.

Additionally, in September 2008, we further expanded our land system offerings through the acquisition of ARAM Systems Ltd. and Canadian Seismic Rentals Inc. (sometimes collectively referred to herein as “ARAM”). We acquired ARAM for the purpose of advancing our strategy and market penetration in the land seismic recording system business.

Through these and other acquisitions, along with our research and development efforts, our technologies and services now 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.

The dramatic changes that occurred in the fourth quarter of 2008 and continued into 2009 have caused us to re-evaluate and refine our business strategy. During late 2008, disruption in the U.S. financial markets prompted a global economic crisis, which adversely affected economic activity in most regions of the world and led to a tightening of the availability of commercial credit. Many economists are now predicting a prolonged worldwide economic recession and a slow recovery in the credit markets.

Since the global economic crisis began to unfold, crude oil prices have rapidly declined from a peak oil price of \$147 per barrel in July 2008 to approximately \$40 per barrel in December 2008. Hydrocarbon price erosion has caused E&P companies to decrease their capital expenditure plans for exploration and production activities, which, in turn, adversely impacts the demand for many of our products and services. Unlike many other seismic companies, we participate only in the technology side of the business and are mainly involved in the planning, processing and interpretation of data services. We do not provide the actual contracting services, and, as a result, do not have large capital expenditures that are required to fund land and marine seismic crews. Our costs are therefore much more variable than most other seismic companies, which provides greater flexibility in difficult economic times.

During the fourth quarter of 2008 and continuing into 2009, we have been re-evaluating our business strategy to ensure that it remains consistent with the commercial realities of our customers and a market guided by dramatically lower commodity prices. We also have re-evaluated and made necessary reductions in our cost structure to better align with necessary changes in strategy and to adjust to the current levels of demand. For example, we observed a severe slowdown in sales activity for our land acquisition systems in North America and Russia. As a result, we have reduced employee headcount across our company by approximately 13% in December 2008 and January 2009, with the most reduction concentrated within the Land Imaging Systems segment. We believe that our current headcount is sufficient to manage our business and serve our customers’ needs during 2009 in all segments, but we may make further adjustments as market conditions and our strategy dictate.

In addition to analyzing employee resources, we have evaluated current and planned internal and external programs, including research and development, to ensure that each program is serving a worthwhile goal in the most efficient manner. We are a technology solutions company and we rely upon our research and development programs to ensure that we offer products capable of solving complex imaging problems around the world efficiently. The recent declines in oil and natural gas prices do not change the universally accepted facts that the oil and gas industry still suffers from declines in the number and size of new discoveries and production declines in known reservoirs. These facts, combined with growing global demographics, support a conclusion of continuing long-term demand for hydrocarbons. In the current difficult economic environment, we believe that our technologies and services are ideal tools for E&P companies seeking ways to be more productive in a lower price environment. As a result, we have focused much of our research and development efforts on strategic programs that are seeking efficient and cost-effective solutions for the challenges in the current market and also in a recovered economy.

A key element of our business strategy, which started with the acquisition of GXT in 2004, has been to understand the challenges faced by E&P companies in survey planning, acquisition, processing and even 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 possess an intimate understanding of the unique challenges in their areas.

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

- Continuing to manage our cost structure to reflect current market and economic conditions while keeping key strategic technology programs progressing with an overall goal of enabling E&P companies to solve their complex reservoir problems most efficiently and effectively;
- Expanding our ION Solutions business in new regions with new customers and new land and marine service offerings, including proprietary services for owners and operators of oil and gas properties;
- Globalizing our ION 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 the emerging 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;
- Expanding our seabed imaging solutions business using our VectorSeis<sup>®</sup> Ocean (VSO) 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;
- Utilizing our recent ARAM acquisition as a framework to increase our market share and profitability in cable-based land acquisition systems; and
- Furthering the commercialization of FireFly<sup>®</sup>, our cableless full-wave land data acquisition system, through sales and also through a services/rental model to advance the diffusion rate.

The rapid decline of oil and natural gas prices in late 2008 makes it even more important for the E&P industry to reduce the number of dry holes and to optimize the wells that are successful. E&P companies continue to be interested in technology to increase production and in improving their understanding of targeted reservoirs, in both the exploration and production phases. We believe that our new technologies, such as FireFly, DigiFIN and Orca<sup>®</sup>, will continue to attract interest because they are designed to deliver improvements in image quality within more productive delivery systems. For more information regarding our products and services, see “— *Products and Services*” below.

### **Full-Wave Digital**

Our seismic data acquisition products and services are well suited for traditional 2-D, 3-D, and 4-D data collection as well as more advanced multicomponent — or “full-wave digital” — seismic data collection techniques.

Conventional geophone sensors are based on a mechanical, coil-spring magnet arrangement. The single component geophone measures ground motion in one direction, even though reflected energy in the Earth travels in multiple directions. This type of geophone can capture only pressure waves (P-waves). P-waves represent only a portion of the full seismic wavefield. Conventional geophones have limitations in collecting shear waves (S-waves), which involve a component of particle motion that is orthogonal to the direction of wave propagation (a more “horizontal” component of motion). In addition, geophones require accurate placement both vertically and spatially. Inaccurate placement, which can result from poorly planned surveys or human error, can introduce distortions that negatively affect the final subsurface image.

Multicomponent seismic sensors are designed to record the full seismic wavefield by measuring reflected seismic energy in three directions. This vector-based measurement enables multicomponent sensors to record not only P-wave data, but also to record shear waves. ION's VectorSeis sensor was developed using MEMS accelerometer technology to enable a true vector measurement of all seismic energy reflected in the subsurface. VectorSeis is designed to capture the entire seismic signal and more faithfully record all wavefields traveling within the Earth. By measuring both P-waves and S-waves, the VectorSeis ‘full-wave’ sensor records a more complete and accurate seismic dataset having higher frequency content than conventional sensors. When data recorded by VectorSeis is processed using the advanced imaging techniques offered by our GXT Imaging Solutions



group, we are able to deliver higher-definition images of the subsurface to our oil and gas customers, which enables geophysicists to better identify subtle structural, rock, and fluid-oriented features in the Earth. In addition, we believe that full-wave technologies should deliver improved operating efficiencies in field acquisition and reduce cycle times across the seismic workflow, from planning through acquisition and final image rendering.

VectorSeis acquires full-wave seismic data in both land and marine environments using a portfolio of advanced imaging platforms manufactured by ION:

- Scorpion<sup>®</sup> — our cable-based land acquisition system that replaced our System Four<sup>®</sup> system in late 2006;
- VectorSeis Ocean (VSO) — our redeployable ocean bottom cable system for the seabed; and
- FireFly — our cableless full-wave land acquisition system.

## **Segment Information**

We operate our company through four business segments. Three of these segments — Land Imaging Systems, Marine Imaging Systems and Data Management Solutions — make up our ION Systems division. The fourth segment is our ION Solutions division.

- *Land Imaging Systems* — cable-based, cableless, and radio-controlled seismic data acquisition systems, digital and analog geophone sensors, vibroseis vehicles (i.e. vibrator trucks), and source controllers for detonator and vibrator energy sources.
- *Marine Imaging Systems* — towed streamer and redeployable ocean bottom cable seismic data acquisition systems and shipboard recorders, streamer positioning and control systems, and energy sources (such as air guns and air gun controllers).
- *Data Management Solutions* — software and related services for navigation and data management involving towed marine streamer and seabed operations.
- *ION Solutions* — advanced seismic data processing services for marine and land environments, our marine seismic data libraries, and our Integrated Seismic Solutions (ISS) services.

We measure segment operating results based on income from operations. See further discussion of our segment operating results at Note 14 of *Notes to Consolidated Financial Statements*.

## **Products and Services**

See Item 7 — “*Management’s Discussion and Analysis of Financial Condition and Results of Operations — Executive Summary*” for a list of certain developments in our business in 2008 and early 2009.

### ***ION Systems Division***

#### ***Land Imaging Systems Products***

Products for our Land Imaging Systems business segment include the following:

*Land Acquisition Systems.* Our cable-based Scorpion and ARIES<sup>®</sup> land acquisition systems 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 or helicopter. 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.

Our ARIES product line was acquired in connection with our acquisition of ARAM 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 analog seismic data from the geophones and transmit the data

digitally to the central processing equipment, and line tap units that 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 (standard sealed or lithium-ion), central recording equipment (including seismic processing module and ARAM software), baseline cables that connect the central recording equipment with the taps and receiver line cables that connect geophones or hydrophone groups to a RAM.

Scorpion is capable of recording full-wave seismic data. Digital sensors, while more expensive than traditional analog geophones, can provide increased response linearity and bandwidth, which translates 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.

Scorpion contains numerous enhancements that are designed to reduce our manufacturing costs, improve system reliability and productivity, and enable higher station count acquisition. During 2007, we delivered 14 Scorpion land acquisition systems to Oil and Natural Gas Corporation Limited, the national oil company of India. Each Scorpion system is capable of recording with digital, full-wave VectorSeis sensors or analog geophones.

We began VectorSeis technology land acquisition field tests in 1999, and since that time VectorSeis technology has been used to acquire seismic data in North America, Europe, Asia, the Pacific Basin region, the Middle East, and the Commonwealth of Independent States. In 2002, we introduced our VectorSeis System Four land acquisition system. In 2004, we announced the introduction of our new hybrid System Four platform, which gave seismic companies the flexibility to use both traditional analog geophone sensors and digital full-wave VectorSeis sensors on the same survey. VectorSeis is also used as the primary sensor device on our FireFly cableless land acquisition system.

In November 2005, we announced our development of FireFly, a cableless system for full-wave land seismic data acquisition. 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. We believe that the cableless design of FireFly will improve field productivity while reducing concerns for health and safety and environmental liability exposure. FireFly's benefits include a decrease in system weight and, we believe, superior operational efficiencies, reduction in operational troubleshooting time, and better defined sampled seismic data. Also, we believe that the data management capabilities of FireFly should reduce the amount of time spent pre-processing the data.

During late 2006 and 2007, we delivered an early version of our FireFly system, which was used by British Petroleum and then Apache Corporation, in field application projects located in Wyoming and northeast Texas, respectively. An advanced version of our FireFly system was successfully deployed in July 2008 on a multi-client survey in northwest Colorado in which Pittsburgh-based E&P operator, East Resources, served as the lead underwriter. This initial deployment of the more advanced version of our FireFly system was called Durham Ranch, after one of the large, privately held ranches in this ecologically sensitive area. In early 2009, ION sold its first commercial FireFly system, which will be used in a producing hydrocarbon basin containing reservoirs that have been difficult to image with conventional seismic techniques.

*Geophones.* Geophones are 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. We believe our Sensor group is the leading designer and manufacturer of precision geophones used in seismic data acquisition. Our analog geophones are used in other industries as well.

*Vibrators and Energy Sources.* Vibrators are devices carried by large vibroseis vehicles and, along with dynamite, are used as energy sources for land seismic acquisition. We market and sell the AHV-IV™, an articulated tire-based vibrator vehicle, and a tracked vibrator, the XVib®, for use in environmentally sensitive areas such as the Arctic tundra and desert environments.

Our Pelton division is a provider of energy source control and positioning technologies. Pelton's Vib Pro™ control system provides vibrator vehicles with digital technology for energy control and global positioning system technology for navigation and positioning. Pelton's Shot Pro™ dynamite firing system, released in 2007, is the equivalent technology for seismic operations using dynamite energy sources.

### ***Marine Imaging Systems Products***

Products for our Marine Imaging Systems business segment include the following:

*Marine Acquisition Systems.* Our traditional 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 towed streamer seismic acquisition vessel. The hydrophones detect acoustical energy transmitted through water from the Earth's subsurface structures. Our first DigiSTREAMER™ system, our next-generation towed streamer system, was successfully commissioned at the start of the North Sea season in 2008. The second DigiSTREAMER system was delivered during 2008. DigiSTREAMER uses solid streamer and continuous acquisition technology for towed streamer operations.

During 2004, we introduced our VectorSeis Ocean (VSO) system, an advanced system for seismic data acquisition using redeployable ocean bottom cable, and we shipped the first system to Reservoir Exploration Technology, ASA (RXT), a Norwegian seismic contractor. During 2008, we completed the delivery of our fifth VSO system to RXT. We have entered into a multi-year agreement with RXT under which RXT has agreed to purchase a minimum of \$160 million in VSO systems and related equipment from us through 2011. Approximately \$122.0 million in purchase commitments remain under the agreement. The agreement also entitles us to receive a royalty of 2.1% of all revenues generated by RXT through the use of VSO equipment from January 2008 through the end of the term of the agreement. In turn, the agreement grants RXT exclusive rights to this product line through 2011. In 2008, we recognized \$2.4 million of royalty income under this agreement.

*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™, our advanced lateral streamer control system, saw significant acceptance by the industry in 2008 with a total of nine systems delivered during the year. 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 minimize 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.

### ***Data Management Solutions Products and Services***

Through this segment, we supply 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 redeployable and permanent seabed monitoring systems. Products and services for our Data Management Solutions business segment include the following:

*Marine Imaging.* Orca is our next-generation successor software product for towed streamer navigation and integrated data management applications. During 2007 and 2008, Orca made significant inroads into the towed streamer market with several major seismic contractors adopting the technology for their new, high-end seismic vessels. Orca includes modules designed to manage acquisition marine surveys integrating the navigation, source control, and streamer control functions. Orca can manage complex marine surveys such as time-lapse 4-D surveys and WATS (Wide Azimuth Towed Streamer) surveys. WATS is an advanced acquisition technique for imaging complex structures (for example, subsalt) in the marine environment, generally implemented with multiple source vessels that shoot at some distance from the streamer recording vessel. Orca is designed to be compatible with our DigiFIN product, which enables streamer lateral control, and DigiSTREAMER, ION's new marine streamer acquisition system. SPECTRA® is Concept Systems' legacy integrated navigation and survey control software system for towed streamer-based 2-D, 3-D, and 4-D seismic survey operations.

*Seabed Imaging.* Concept Systems also offers GATOR®, an integrated navigation and data management software system for multi-vessel ocean bottom cable and transition zone (such as marshlands) operations. 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.

*Survey Design, Planning and Optimization.* Concept Systems also offers consulting services for planning, designing and supervising complex surveys, including 4D and WATS survey operations. Concept Systems' acquisition expertise and in-field software platforms and development capability are designed to allow their clients to optimize these complex surveys, improving image quality and reducing costs.

*Post-Survey Analysis Tools.* Concept Systems' Command and Control systems such as Orca, SPECTRA and GATOR are designed to integrate with its post-survey tools for processing, analysis, and data quality control. These tools include its SPRINT<sup>®</sup> navigation processing and quality control software for marine geophysical surveys, and its REFLEX<sup>®</sup> software for seismic coverage and attribute analysis.

### ***ION Solutions Division Services***

Services for our ION Solutions business segment include the following:

*Seismic Data Processing Services.* The GXT Imaging Solutions group provides a variety of seismic data processing and imaging services to E&P companies for marine, ocean bottom and land environments. Services include survey planning and design, project oversight of data acquisition operations, advanced signal processing, final image rendering, and geophysical and reservoir analysis.

The GXT Imaging Solutions group offers processing and imaging services through which it develops a series of subsurface images by applying its processing technology to data owned or licensed by its customers. The group also provides support services to its customers, such as data pre-conditioning for imaging and outsourced management of seismic data acquisition and image processing services.

The GXT Imaging Solutions group uses parallel computer clusters to process seismic data by applying advanced proprietary algorithms and workflows that incorporate techniques such as illumination analysis, data conditioning and velocity modeling, and time and depth migration. Pre-stack depth migration involves the application of advanced, computer-intensive processing techniques which convert time-based seismic information to a depth basis. While pre-stack depth migration is not necessary in every imaging situation, it generally provides the most accurate subsurface images in areas of complex geology. It also helps to convert seismic data, which is recorded in the time domain, into a depth domain format that is more readily applied by geologists and reservoir engineers in identifying well locations. 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.

Our AXIS Geophysics group (AXIS), based in Denver, Colorado, focuses on advanced seismic data processing for stratigraphically complex onshore environments. AXIS has developed a proprietary data processing technique called AZIM<sup>™</sup> that is designed to better account for the anisotropic effects of the Earth (i.e., different layers of geological formations that are not parallel to each other), 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.

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 the data measurements obtained by our VectorSeis full-wave sensor.

*Integrated Seismic Solutions (ISS).* ION's ISS 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 ISS 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 component to geophysical logistics contractors. ION offers its ISS 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 the 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 data and images and receive on-going license revenue from subsequent data license sales.

*Seismic Data Libraries.* Since 2002, GXT 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 GXT consist of ultra-deep 2-D lines 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. Known as “SPANS,” these geophysical data libraries currently exist for major basins worldwide, including the northern Gulf of Mexico, in the southern Caribbean, off the northern coast of South America, offshore West Africa, offshore Colombia, offshore India and offshore northern Canada and Alaska. In 2008, we completed the acquisition of our latest basin-scale seismic survey library for the Eastern Java Sea and the Makassar Straits, two prospective areas offshore Indonesia and Malaysia. Data for nearly 10,000 kilometers was acquired during the acquisition phase of this project. Additionally, we successfully completed the acquisition phase of a multi-client seismic imaging project using our FireFly cableless land acquisition system at Durham Ranch in Northwest Colorado. Additional SPANS are planned or under development for other regions of the world.

## **Product Research and Development**

Our research and development efforts have focused on improving both the quality of the subsurface image and the seismic data acquisition economics for our customers. 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.

In 2008, we principally focused our research and development efforts on commercialization of our FireFly system and on DigiSTREAMER, our solid streamer cable for marine acquisition. FireFly was deployed in July 2008 on a multi-client survey at Durham Ranch, and we delivered the first commercial FireFly system in early 2009. A DigiSTREAMER system was deployed in an open-water test by Fugro, a Netherlands company, early in 2008 and was sold to Fugro shortly thereafter.

As a result of current economic and market conditions, in 2009 we intend to reduce our overall spending on research and development projects. During 2009, we expect that our product development efforts will continue across selective business lines aimed at the development of strategic key products and technologies. Major research and development programs are expected to continue for FireFly, our “Digi-” line of marine streamer technologies, our cable-based land systems and our land energy source technologies. A key research and development initiative is underway to integrate FireFly with our cable-based land recording systems in order to provide contractors with a hybrid architecture for cabled and cableless recording on the same survey. We also are investing to develop hybrid sensor functionality for both ARIES II and FireFly. The effort on ARIES II involves making the current “all-analog” system compatible with VectorSeis; the effort on FireFly involves making the current “all-digital” system compatible with analog geophones. For a summary of our research and development expenditures during the past five years, see Item 6. “*Selected Financial Data.*”

Because many of these new products are under development, their commercial feasibility or degree of commercial acceptance, if any, is not yet known. No assurance can be given concerning the successful development of any new products or enhancements, 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 numerous product lines, including geophones, full-wave sensors based upon micro-electro magnetic systems (MEMS), navigation and data management software, marine positioning and streamer control systems, cableless land acquisition systems and redeployable seabed recording systems.

Our principal customers are seismic contractors and E&P companies. 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. We also market and sell products and offer services directly to E&P companies, primarily imaging-related processing services and multi-client seismic data libraries from our GXT subsidiary, as well as consulting services from Concept Systems and GXT. During the years ended December 31, 2008, 2007 and 2006, no single customer accounted for 10% or more of our consolidated net revenues.

Until September 2008, worldwide exploration activities had increased in response to increased hydrocarbon demand and diminishing supply from many regions. As a result, the utilization of both land and marine seismic data acquisition products and services had increased significantly, with seismic contractors expanding their acquisition asset base and retrofitting existing assets with newer, more efficient technologies. Since the global economic crisis began to unfold late in the third quarter of 2008, demand for products and services has fallen in all industrial sectors and in all regions. The E&P industry has been affected by a rapid fall-off in prices for both natural gas and crude oil, with the latter falling from a peak of \$147 per barrel in July 2008 to

approximately \$40 per barrel in December 2008. Hydrocarbon price erosion has caused E&P companies to revisit their capital investment plans, which, in turn, is reverberating back through the supply chain to affect us both directly and indirectly through our seismic acquisition contractor customers.

Contractors from China and other countries are increasingly active not only in their own countries but also in other international markets. As a result, 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 products and services through a direct sales force consisting of employees and international third-party sales representatives responsible for key geographic areas. During the years ended December 31, 2008, 2007 and 2006, sales to destinations outside of North America accounted for approximately 60%, 62% and 68% of our consolidated net revenues, respectively. Further, systems sold to domestic customers are frequently deployed internationally and, from time to time, certain foreign sales require export licenses.

We have consolidated our international sales under a new entity operating in Dubai. Dubai is geographically better positioned to ensure that we are close to our customers in the most active oil and gas centers of the world. Associated with this change will be a more effective tax structure that better reflects our global operations and better operational efficiencies for our international customers.

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

For information concerning the geographic breakdown of our net revenues, see Note 14 of *Notes to Consolidated Financial Statements*.

### **Manufacturing Outsourcing and Suppliers**

Since 2003, we have increased the use of contract manufacturers in our Land and Marine Imaging Systems business segments as an alternative to manufacturing our own products. We have outsourced the manufacturing of our vibrator vehicles, our towed marine streamers, our redeployable ocean bottom cables, various components of VectorSeis Ocean and certain electronic and ground components of our land acquisition systems. We may experience supply interruptions, cost escalations, and competitive disadvantages if we do not monitor these relationships properly.

These contract manufacturers purchase a substantial portion of the components used in our systems and products from third-party vendors. Certain items, such as integrated circuits used in our systems, are purchased from sole source vendors. Although we and our contract manufacturers attempt to maintain an adequate inventory of these single source items, the loss of ready access to any of these items could temporarily disrupt our ability to manufacture and sell certain products. Since our components are designed for use with these single source items, replacing the single source items with functional equivalents could require a redesign of our components and costly delays could result.

In 2004, we transferred ownership of our subsidiary, Applied MEMS, Inc., to Colibrys Ltd. (Colibrys), a Swiss MEMS-based technology firm, in exchange for a 10% ownership interest in Colibrys. We also entered into a five-year supply agreement with Colibrys that provides for Colibrys to supply us with products on an exclusive basis in our markets. Colibrys manufactures micro-electro-mechanical system (MEMS) products, including accelerometers, for our VectorSeis sensors, and for other applications, including test and measurement, earthquake and structural monitoring, and defense. While we continue to believe that MEMS-based sensors like our VectorSeis sensors will increasingly be used in seismic imaging, we also believe that improvements in the design and manufacture of MEMS technology will also likely occur, that will require additional financial and human capital to achieve. By outsourcing our MEMS manufacturing operations to a MEMS-based technology firm such as Colibrys, we believe that we are better positioned to leverage the research and development of these products and industries, improve gross margins on our VectorSeis-based products, and reduce our future investment requirements in MEMS technology. We have no further obligations to fund Colibrys with regard to any mandatory assessments or additional capital contribution requirements but we may choose to invest further capital into Colibrys from time to time.

## Competition

The market for seismic products and services 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, Compagnie General de Geophysique Veritas (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 controlled network of third-party vendors) in order to achieve differentiation versus their competition. For example, WesternGeco (a wholly-owned subsidiary of Schlumberger Limited, a large integrated oilfield services company) 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.

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 to approximately 155 by year-end 2010, compared to approximately 124 at December 31, 2008. In addition, there has been an increase in acquisition activity within the sector, with the major vessel operators – Schlumberger, CGGVeritas, and PGS – all moving to acquire new market entrants in the last several years. Many of these incumbent operators develop their own marine streamer technologies, such that consolidation in the sector reduces the number of potential customers and vessel outfitting opportunities for us.

Our GXT Imaging Solutions group competes with more than a dozen processing companies that are capable of providing pre-stack depth migration services to E&P companies. While the barriers to entry into this market are relatively low, the barriers to competing at the higher end of the market, which is the advanced pre-stack depth migration market, where our efforts are focused, are significantly higher. At the higher end of this market, CGGVeritas and WesternGeco are ION Solutions division'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 and marketing 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.

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 evidence of growing competition to Concept Systems' core command and control business from Sercel and other smaller companies. Concept Systems has recently signed long term (between 2 and 5 years) technology partnerships 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.

In the land systems market, ION is the second largest provider of cable-based land systems worldwide, trailing only Sercel. In the cableless market, several companies have introduced technologies that compete, directly or indirectly, with FireFly, including Sercel, Ascend Geo, OYO Geospace, Fairfield, and Wireless Seismic. Each company is attempting to implement a cableless architecture in a slightly different way, with variations related to how the telemetry (data communications backbone) works, whether the system can use digital, full-wave sensors (or only analog geophones), and the amount of integration between the cableless recording unit and other technologies used for survey design, equipment deployment/retrieval, operational command and control, and data management.

## 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, no one patent is considered essential to our success.

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.

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,” “VectorSeis System Four,” “System Four,” “FireFly,” “ARIES,” “DigiSHOT,” “XVib,” “DigiCOURSE,” “GATOR,” “SPECTRA,” “Orca,” “Scorpion,” “SPRINT,” and “REFLEX” refer to our VECTORSEIS<sup>®</sup>, VECTORSEIS SYSTEM FOUR<sup>®</sup>, SYSTEM FOUR<sup>®</sup>, FIREFLY<sup>®</sup>, ARIES<sup>®</sup>, DIGISHOT<sup>®</sup>, XVIB<sup>®</sup>, DIGICOURSE<sup>®</sup>, GATOR<sup>®</sup>, SPECTRA<sup>®</sup>, ORCA<sup>®</sup>, SCORPION<sup>®</sup>, SPRINT<sup>®</sup>, and REFLEX<sup>®</sup> registered marks, and the terms “AZIM,” “ArcticSPAN,” “True Digital,” “DigiRANGE II,” “DigiSTREAMER,” “CompassBIRD,” “SM-24,” “AHV-IV,” “Vib Pro,” “Shot Pro,” “DigiFIN,” “Autobahn,” and “SWAT” refer to our AZIM<sup>™</sup>, ArcticSPAN<sup>™</sup>, True Digital<sup>™</sup>, DigiRANGE II<sup>™</sup>, DigiSTREAMER<sup>™</sup>, CompassBIRD<sup>™</sup>, SM-24<sup>™</sup>, AHV-IV<sup>™</sup>, Vib Pro<sup>™</sup>, Shot Pro<sup>™</sup>, DigiFIN<sup>™</sup>, Autobahn<sup>™</sup>, and SWAT<sup>™</sup> trademarks and service marks.

## Regulatory Matters

Our operations are subject to 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 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. 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. Our customers’ operations are also significantly impacted 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, 2008, we had 1,413 regular, full-time employees, 851 of which 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.

In the fourth quarter of 2008, we initiated a restructuring program, which included plans for reducing our headcount by approximately 13%, or 188 positions. As of December 31, 2008, we had reduced our headcount by 83 employees. In the first quarter of 2009, we completed our restructuring program, eliminating the remaining 105 positions. During 2009, we will continue to evaluate our staffing needs and may further reduce our headcount.



## Financial Information by Segment and Geographic Area

For a discussion of financial information by business segment and geographic area, see Note 14 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:

- our expectations for future financing and the refinancing of our existing indebtedness;
- the expected effects of current and future worldwide economic conditions and demand for oil and natural gas;
- future levels of spending by our customers;
- compliance with our debt financial covenants;
- expected net revenues, income from operations and net income;
- expected gross margins for our products and services;
- future benefits to our customers to be derived from new products and services, such as Scorpion and FireFly;
- future growth rates for certain of our products and services;
- future sales to our significant customers;
- our ability to continue to leverage our costs by growing our revenues and earnings;
- the degree and rate of future market acceptance of our new products and services;
- expectations regarding future mix of business and future asset recoveries;
- the timing of anticipated sales;
- anticipated timing and success of commercialization and capabilities of products and services under development and start-up costs associated with their development;
- expected improved operational efficiencies from our full-wave digital products and services;
- potential future acquisitions;
- future levels of capital expenditures;
- future cash needs and future sources of cash, including availability under our revolving line of credit facility;
- our ability to maintain our costs at consistent percentages of our revenues in the future;
- the outcome of pending or threatened disputes and other contingencies;

- future demand for seismic equipment and services;
- future seismic industry fundamentals;
- the adequacy of our future liquidity and capital resources;
- future oil and gas commodity prices;
- future opportunities for new products and projected research and development expenses;
- success in integrating our acquired businesses;
- 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:

***The current economic and credit environment and lower oil and natural gas prices could have a continuing adverse effect on demand for certain of our products and services, our results of operations, our cash flows, our financial condition, our ability to borrow and our stock price.***

Commencing in late 2008, global market and economic conditions became, and continue to be, disrupted and volatile. Concerns over energy costs, geopolitical issues, the availability and cost of credit, the U.S. mortgage market and a declining residential real estate market in the U.S. have contributed to this increased volatility and diminished expectations for the economy and the markets going forward. These factors, combined with volatile oil prices, declining business and consumer confidence and increased unemployment, have precipitated a global recession. In the past, downturns in the U.S. economy have caused weakened demand and lower prices for oil and natural gas on a worldwide basis, which have tended to reduce the levels of exploration for oil and natural gas. Historically, demand for our products and services has been sensitive to the level of exploration spending by E&P companies and geophysical contractors; the demand for our products and services will be reduced if the level of exploration expenditures is 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 products and services, which in turn, have limited our ability to meet sales objectives and maintain profit margins for our products and services. 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 are likely to continue to be so in the future.

The recent turmoil 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. Continued weakness in the financial markets could have a material adverse effect on our ability to refinance all or a portion of our indebtedness in connection with the ARAM acquisition and to otherwise fund our operational requirements.

Interest rates have fluctuated recently, have increased the costs of financing and will likely reduce our and our customers' profits and expected returns on investment. Given the current credit environment, particularly the tightening of the credit markets, there can be no assurance that our customers will be able to borrow money on a timely basis or on reasonable terms, which could have a negative impact on their demand for our products and impair their ability to pay us for our products and services on a timely basis, or at all. Our sales are 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 products and services provided by our competitors more attractive to customers, which could lead to a decline in demand for our products and services. This could have a material adverse effect on our business, results of operations, financial condition and cash flows.

It is difficult to predict how long the current economic conditions will persist, whether they will deteriorate further, and which of our products and services will be adversely affected. We may have further impairment losses if events or changes in

circumstances occur which reduce the fair value of an asset below its carrying amount. As a result, these conditions could adversely affect our financial condition and results of operations, and we may be subject to increased disputes and litigation because of these events and issues.

Stock markets, in general, have experienced in recent months, and continue to experience, significant price and volume volatility, and the market price of our common stock may continue to be subject to similar market fluctuations unrelated to our operating performance or prospects. This increased volatility, coupled with depressed economic conditions, could continue to have a depressing effect on the market price of our common stock.

***We have a substantial amount of outstanding indebtedness, and we will need to pay or refinance our existing indebtedness or incur additional indebtedness, which may adversely affect our operations.***

As a result of the ARAM acquisition, we have increased our indebtedness significantly. As of December 31, 2008, we had outstanding total indebtedness of approximately \$291.9 million, including capital lease obligations. Total indebtedness on that date included \$120.3 million in borrowings under five-year term indebtedness and \$66.0 million in borrowings under our revolving credit facility, in each case incurred under our amended commercial banking credit facility (the “Amended Credit Facility”). We also had as of that date \$40.8 million of indebtedness outstanding under a Bridge Loan Agreement, dated as of December 30, 2008, with Jefferies Finance LLC (“Jefferies”) as administrative agent, sole bookrunner, sole lead arranger and lender (the “Bridge Loan Agreement”), which indebtedness matures on January 31, 2010. In addition, we had \$35.0 million of subordinated indebtedness outstanding under an amended and restated subordinated promissory note (the “Amended and Restated Subordinated Note”) that we issued to one of ARAM’s selling shareholders in exchange for a previous promissory note we had issued to that selling shareholder as part of the purchase price consideration for the acquisition of ARAM.

As of December 31, 2008, we had available \$34.0 million (without giving effect to \$1.2 million of outstanding letters of credit) of additional revolving credit borrowing capacity under our Amended Credit Facility. However, as of February 23, 2009, we had available only \$0.8 million of additional revolving credit borrowing capacity, which can be used only to fund further letters of credit under the Amended Credit Facility.

In January 2009, Standard and Poor’s Rating Services downgraded our outlook from “stable” to “negative” due to expectations of a weakening seismic market.

Our substantial levels of indebtedness and our other financial obligations increase the possibility that we may be unable to generate cash sufficient to pay, when due, the principal of, interest on or other amounts due, in respect of our outstanding indebtedness. Our substantial debt could also have other significant consequences. For example, it could:

- increase our vulnerability to general adverse economic, competitive and industry conditions;
- limit our ability to obtain additional financing in the future for working capital, capital expenditures, acquisitions, general corporate purposes or other purposes on satisfactory terms, or at all;
- require us to dedicate a substantial portion of our cash flow from operations to the payment of our indebtedness, thereby reducing funds available to us for operations and any future business opportunities;
- expose us to the risk of increased interest rates because certain of our borrowings, including borrowings under our Amended Credit Facility, are at variable rates of interest;
- restrict us from making strategic acquisitions or cause us to make non-strategic divestitures;
- limit our planning flexibility for, or ability to react to, changes in our business and the industries in which we operate;
- limit our ability to adjust to changing market conditions; and
- place us at a competitive disadvantage to our competitors who may have less indebtedness or greater access to financing.

Although we currently believe we will maintain compliance with our covenants throughout 2009, there are certain scenarios where we could fall out of compliance with our financial covenants under our Amended Credit Facility and our Bridge Loan Agreement. See Item 7. — “*Management’s Discussion and Analysis of Financial Condition and Results of Operations* —

If we fail to make any required payment under our Amended Credit Facility, the Bridge Loan Agreement or the Amended and Restated Subordinated Note, or if we fail to comply with any of the financial and operating covenants included in those debt instruments, we will be in default under their terms. The lenders under such facilities could then accelerate the maturity of the indebtedness and foreclose upon our and our subsidiaries’ assets that may secure such indebtedness. Other creditors might then accelerate other indebtedness under the cross-default provisions in those agreements. If our creditors accelerate the maturity of our indebtedness, we may not have sufficient assets to satisfy our debt obligations.

Our ability to obtain any financing, including any additional debt financing, whether through the issuance of new debt securities or otherwise, and the terms of any such financing are dependent on, among other things, our financial condition, financial market conditions within our industry, credit ratings and numerous other factors. There can be no assurance that we will be able to obtain financing on acceptable terms or within an acceptable time, if at all. If we are unable to obtain financing on terms and within a time acceptable to us (or to negotiate extensions with our lenders on terms acceptable to us), it could, in addition to other negative effects, have a material adverse effect on our operations, financial condition, ability to compete or ability to comply with regulatory requirements. Such defaults, if not rescinded or cured, would have a materially adverse effect on our operations, financial condition and cash flows.

***To comply with our indebtedness and other obligations, we will require a significant amount of cash and will be required to satisfy certain debt financial covenants. Our ability to generate cash and satisfy debt covenants depends on many factors beyond our control.***

Our ability to make payments on and to refinance our indebtedness, including our acquisition debt, and to fund our working capital needs and planned capital expenditures, will depend on our ability to generate cash in the future. This, to a certain extent, is subject to general economic, financial, competitive and other factors that are beyond our control.

We cannot assure you that our business will generate sufficient cash flows from operations or that future borrowings will be available to us under the Amended Credit Facility or otherwise in an amount sufficient to enable us to pay our indebtedness, including our acquisition debt, or to fund our other liquidity needs. We will need to refinance all or a portion of our indebtedness, including our acquisition debt, on or before the maturity thereof. We cannot assure you that we will be able to refinance any of such indebtedness on commercially reasonable terms, or at all.

In addition, if for any reason we are unable to meet our debt service obligations, we would be in default under the terms of our agreements governing our outstanding debt. If such a default were to occur, the lenders under the Amended Credit Facility could elect to declare all amounts outstanding under the Amended Credit Facility immediately due and payable, and the lenders would not be obligated to continue to advance funds to us. In addition, if such a default were to occur, our other indebtedness would become immediately due and payable.

The Amended Credit Facility and other outstanding debt instruments to which we are a party impose significant operating and financial restrictions, which may prevent us from capitalizing on business opportunities and taking other actions.

Subject to certain exceptions and qualifications, the Amended Credit Facility contains customary restrictions on our activities, including covenants that restrict us and our restricted subsidiaries from:

- incurring additional indebtedness and issuing preferred stock;
- creating liens on our assets;
- making certain investments or restricted payments;
- consolidating or merging with, or acquiring, another business;
- selling or otherwise disposing of our assets;
- paying dividends and making other distributions with respect to capital stock, or repurchasing, redeeming or retiring capital stock or subordinated debt; and

- entering into transactions with our affiliates.

The Amended Credit Facility also contains covenants that require us to meet certain financial ratios and minimum thresholds. For example, the Amended Credit Facility requires that we and our domestic subsidiaries (a) maintain a minimum fixed charge coverage ratio in an amount equal to 1.50 to 1 for each fiscal quarter beginning in 2009, (b) not exceed a maximum leverage ratio of 2.25 to 1 for each fiscal quarter beginning in 2009, and (c) maintain a minimum tangible net worth of at least 80% of the our tangible net worth as of September 18, 2008 (the date that we completed our acquisition of ARAM), plus 50% of our consolidated net income for each quarter thereafter, and 80% of the proceeds from any mandatorily convertible notes and preferred and common stock issuances for each quarter thereafter.

As of December 31, 2008, we were in compliance with all covenants under the Amended Credit Facility. We believe that, based on our 2009 operating plan and results to date in fiscal 2009, we will remain in compliance with the financial covenants during 2009. As with any operating plan, however, there are risks associated with our ability to execute our 2009 plan. In addition, our ability to remain in compliance with the financial covenants can be affected by events beyond our control, including further declines in E&P company and seismic contractor spending, significant write-downs of accounts receivable, changes in certain exchange rates and other factors. Our failure to comply with such covenants could result in an event of default that, if not cured or waived, could have a material adverse effect on our financial condition, results of operations, and debt service capability. If we were not able to satisfy all of the financial covenants, we would need to seek to amend, or seek one or more waivers of, the covenants under the Amended Credit Facility. If we cannot satisfy the financial covenants and are unable to obtain waivers or amendments, the lenders could declare a default under the Amended Credit Facility. Any default under our Amended Credit Facility would allow the lenders under the facility the option to demand repayment of the indebtedness outstanding under the facility, and would allow certain other lenders to exercise their rights and remedies under cross-default provisions. If these lenders were to exercise their rights to accelerate the indebtedness outstanding, there can be no assurance that we would be able to refinance or otherwise repay any amounts that may become accelerated under the agreements. The acceleration of a significant portion of our indebtedness would have a material adverse effect on our business, liquidity, and financial condition.

The Bridge Loan Agreement contains terms that incorporate many of the same covenants from the Amended Credit Facility. In addition, the Amended and Restated Subordinated Note contains additional restrictions on our ability to incur additional debt. Any additional debt financing we obtain is likely to have similarly restrictive covenants.

The restrictions in the Amended Credit Facility and our other debt instruments may prevent us from taking actions that we believe would be in the best interest of our business, and may make it difficult for us to successfully execute our business strategy or effectively compete with companies that are not similarly restricted. We also may incur future debt obligations that might subject us to additional restrictive covenants that could affect our financial and operational flexibility. We cannot assure you that we will be granted waivers or amendments to these agreements if for any reason we are unable to comply with these agreements, or that we will be able to refinance our debt on terms acceptable to us, or at all. The breach of any of these covenants and restrictions could result in a default under the Amended Credit Facility and our other debt instruments. An event of default under our debt agreements would permit the holders of such indebtedness to declare all amounts borrowed to be due and payable.

***Given the reduced budgets for capital expenditures by E&P companies, demand for our products and services and our results of operations will be adversely affected.***

Demand for our services 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 on products and services such as those we provide our customers are of a highly discretionary 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 or otherwise have a positive effect on our financial condition or results of operations. Oil and gas 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 ability of the Organization of Petroleum Exporting Countries (“OPEC”) to set and maintain production levels for oil;
- the expected rates of declining 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.

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 products and services 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 products and services we provide.

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

Sales to customers outside of North America accounted for approximately 60% of our consolidated net revenues for the year ended December 31, 2008, and 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, 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 service 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 Commonwealth of Independent States, 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 of 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 our assets;
- 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.

***Our variable rate indebtedness subjects us to interest rate risk, which could cause our debt service obligations to increase significantly.***

Each borrowing under our Amended Credit Facility will bear interest, at our option, at either an alternate base rate or a LIBOR-based rate. As of December 31, 2008, the \$120.3 million in term loan indebtedness under the Amended Credit Facility accrued interest using the LIBOR-based interest rate of 6.02% per annum, while \$66.0 million in total revolving credit indebtedness under the Amended Credit Facility accrued interest using the alternate base rate of 6.88% per annum. The average effective interest rate for the quarter ended December 31, 2008 under the LIBOR-based and alternate based rates was 5.7%.

Assuming that no revolving indebtedness is repaid and that \$66.0 million in revolving loans are outstanding, a 1.00% increase in the floating interest rate on the outstanding principal amount of the term loan indebtedness would result in increased interest expense of \$0.7 million per year. Assuming that no term loan indebtedness is repaid and that \$120.3 million in loans are outstanding, a 1.00% increase in the floating interest rate on the outstanding principal amount of the term loan indebtedness would result in increased interest expense of \$1.2 million per year.

Outstanding borrowings under our Bridge Loan Agreement will bear interest at either the one-month LIBOR rate plus 13.25% per annum or the alternate base rate plus 12.25%, if the LIBOR-based rate cannot be determined. The interest rates shall not be less than 15.0% per annum nor greater than 17.0% per annum. Additionally, we have agreed to pay the lender a non-refundable initial duration fee of 3.0% of the aggregate principal amount of the bridge loans outstanding (if any) on June 30, 2009 and a non-refundable additional duration fee of 2.0% of the aggregate principal amount of the bridge loans outstanding (if any) on September 30, 2009. Inclusive of these additional fees (and an upfront fee previously paid), the effective interest rate was 20.0% as of December 31, 2008. Assuming that no indebtedness under the Bridge Loan Agreement is repaid, a 1.00% increase in the effective floating interest rate on the outstanding principal amount would result in increased interest expense of \$0.4 million per year. As of December 31, 2008, the weighted average interest rate on our outstanding indebtedness of \$291.9 million was 9.6%.

***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, Canada, the Netherlands, China, Venezuela, India, Russia, the United Arab Emirates and other countries. Certain of these countries have experienced economic problems and 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 collectibility 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. In some cases, we have assisted our customers in organizing international financing and export-import credit guarantees provided by the United States government. We do not currently extend long-term credit through notes to companies in countries we consider to be too risky from a credit risk perspective.

A majority of our foreign net working capital is within the United Kingdom and Canada. The subsidiaries in those countries receive their income and pay their expenses primarily in pounds sterling ("GBP") and Canadian dollars ("CAD"), respectively. To the extent that transactions of these subsidiaries are settled in GBP or CAD, a devaluation of these currencies versus the U.S. dollar could reduce the contribution from these subsidiaries to our consolidated results of operations as reported in U.S. dollars. For financial reporting purposes, such depreciation will negatively affect our reported results of operations since GBP- and CAD-denominated earnings that are converted to U.S. dollars are stated at a decreased value. In addition, since we participate in competitive bids for sales of certain of our products and services that are denominated in U.S. dollars, a depreciation of the U.S.

dollar against the GBP and CAD harms our competitive position against companies whose financial strength bears less correlation to the strength of the U.S. dollar. While we have employed economic cash flow and fair value hedges designed 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 may not gain rapid market acceptance for our full-wave digital products, which could materially and adversely affect our results of operations and financial condition.***

We have spent considerable time and capital developing our full-wave equipment product lines that incorporate our VectorSeis, FireFly, Scorpion, and associated technologies. Because these products rely on a new digital sensor, our ability to sell these products will depend on acceptance of our digital sensor and technology solutions by geophysical contractors and E&P companies. If our customers do not believe that our digital sensor delivers higher quality data with greater operational efficiency, our results of operations and financial condition will be materially and adversely affected.

The introduction of new seismic technologies and products has traditionally involved long development cycles. Because our full-wave digital products incorporate new technologies, we have experienced slow market acceptance and market penetration for these products. For these reasons, we have continued to be unable to foresee and accurately predict future sales volumes, revenues, and margins for these new products from period to period with the certainty we have desired. See Item 7. — “*Management’s Discussion and Analysis of Financial Condition and Results of Operations — Liquidity and Capital Resources.*”

***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. 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 products and services 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.

Due to the relatively high sales price of many of our products and seismic data libraries and relatively low unit sales volume, our quarterly operating results have historically fluctuated from period to period due to the timing of orders and shipments and the mix of products and services 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 and the availability and equipping of marine vessels, can affect our ION Solutions division’s revenues from its processing and ISS 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.

***Our outstanding shares of Series D-1 Cumulative Convertible Preferred Stock, Series D-2 Cumulative Convertible Preferred Stock and Series D-3 Cumulative Convertible Preferred Stock are convertible into shares of our common stock. The conversion of these securities would result in substantial dilution to existing stockholders, and sales in the open market of the shares of common stock acquired upon conversion may have the effect of reducing the then-current market prices for our common stock.***

The conversion of our outstanding shares of Series D-1 Cumulative Convertible Preferred Stock, Series D-2 Cumulative Convertible Preferred Stock and Series D-3 Cumulative Convertible Preferred Stock (together, the “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. In addition, the very existence of the outstanding shares of the Series D Preferred Stock represents potential issuances of



common stock upon their conversion, and could represent potential sales into the market of our common stock to be acquired on conversion, which could also depress trading prices for our common stock.

***Technologies and businesses that we acquire (including those in connection with the ARAM acquisition) may be difficult to integrate, disrupt our business, dilute stockholder value or divert management attention.***

Our acquisition of ARAM is part of our current business strategy, which is to seek new technologies, products and businesses to broaden the scope of our existing and planned product lines and technologies. This acquisition involves the integration of two companies that previously have operated independently, which is a complex and time consuming process. While we believe that the ARAM acquisition will complement our technologies and our general business strategy, there can be no assurance that we will achieve the expected benefit of the acquisition. This and future acquisitions may result in unexpected costs, expenses, and liabilities, which may have a material adverse effect on our business, financial condition or results of operations.

The ARAM acquisition and future acquisitions expose us to:

- increased costs associated with the acquisition and operation of the new businesses or technologies and the management of geographically dispersed operations;
- risks associated with the assimilation of new technologies (including incorporating ARAM's land seismic acquisition products with our existing product lines), 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 ARAM's customers, partners and vendors;
- risks that any technology we acquire may not perform as well as we had anticipated;
- the diversion of management's attention and other resources from existing business concerns;
- the potential inability to replicate operating efficiencies in the acquired company's operations;
- potential impairments of goodwill and intangible assets;
- the inability to generate revenues to offset associated acquisition costs;
- the requirement to maintain uniform standards, controls and procedures;
- the impairment of relationships with employees and customers as a result of any integration of new and inexperienced management personnel; and
- the risk that acquired technologies do not provide us with the benefits we anticipated.

Integration of the acquired businesses requires significant efforts from each entity, including coordinating existing business plans and research and development efforts. We may not be able to realize the operating efficiencies, cost savings or other benefits that we expect from the acquisition. The process of combining an acquired business with our business could cause an interruption of, or loss of momentum in, the activities of the combined company's business and the loss of key personnel and distract management's attention from the day-to-day operation of the combined companies. If we are unable to successfully integrate the operations of acquired businesses, our future results will be negatively impacted.

ARAM's land data acquisition systems have been a direct competitor of our Scorpion land acquisition systems and their predecessors in recent years. The integration of the Scorpion and the ARAM land acquisition system product lines may prove to be difficult, involving issues concerning marketing strategies, product roadmaps, preservation of the existing bases of installed products and coordination of the different development and engineering teams. No prediction can be made as to the degree of success (if any) we may experience in the timely integration of these product lines.

In addition, while the ARAM acquisition is consistent with our strategy to increase our market share in cable-based land acquisition systems, the acquisition will present challenges for us in terms of a modified roadmap for the further development of our Scorpion land acquisition system.

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

In accordance with Statement of Financial Accounting Standard (SFAS) 142, “*Goodwill and Other Intangible Assets*” (SFAS 142), we are required to compare the fair value of our reporting units to their carrying amount on an annual basis to determine if there is potential goodwill impairment. If the fair value of the reporting unit is less than its carrying value, an impairment loss is recorded to the extent that the fair value of the goodwill within the reporting units is less than its carrying value. At December 31, 2008, we evaluated our reporting units for potential impairment. Based upon our evaluation and given the current market conditions, we determined that approximately \$242.2 million of goodwill related to our Land Imaging Systems (including ARAM) and ION Solutions reporting units was impaired. We recorded the expense as of December 31, 2008 and reduced the carrying amount of our goodwill. 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.

***We are exposed to risks related to complex, highly technical products.***

Our customers often require demanding specifications for product performance and reliability. 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.

***Reservoir Exploration Technology (RXT) has been a significant customer of our Marine Imaging Systems segment. A loss of business from this customer could adversely affect our sales and financial condition if RXT is not replaced by another customer or customers.***

In May 2007, we entered into a multi-year agreement with RXT under which they agreed to purchase a minimum of \$160 million in VectorSeis Ocean (VSO) systems and related equipment through 2011. In addition, this agreement entitles us to receive a royalty of 2.1% of revenues generated by RXT through the use of all VSO equipment commencing in January 2008 until the expiration of the agreement. In turn, RXT has been granted exclusive rights to this product line through 2011.

For the year ended December 31, 2008 and 2007, \$49.0 million, or 7.2%, and \$60.9 million, or 8.5%, respectively, of our consolidated net revenues, were attributable to marine equipment sales to RXT. The loss of RXT as a customer or a significant reduction in their equipment or systems needs could reduce our sales volumes and revenues and lessen our cash flows, and thereby have a material adverse effect on our results of operations and financial condition. Unless we can broaden our customer base for these marine products, we can give no assurances that the revenues and cash flows from RXT, if lost, can be replaced. To the extent that the risks faced by RXT cause it to curtail its business activities or to make timely payments to its suppliers, we are subject to the same risks.

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

Our performance is largely dependent on the talents and efforts of highly skilled individuals. Our future success depends on our continuing ability to identify, hire, develop, motivate, and retain skilled personnel for all areas of our organization. We require

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

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

Products and services for the seismic industry are characterized by rapid technological advances in hardware performance, software functionality and features, frequent introduction of new products and services, and improvement in price characteristics relative to product and service performance. Among the risks associated with the introduction of new products and services 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 products and services 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 products and services to future offerings, our revenues and margins may decline.

Furthermore, sales of our new products and services may replace sales, or result in discounting of some of our current offerings, offsetting the benefit of a successful introduction. In addition, it may be difficult to ensure performance of new products and services in accordance with our revenue, margin, and cost estimates 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 products and services, and our future results of operations, may suffer.

***Technological change in the seismic industry requires us to make substantial research and development expenditures.***

The markets for our products and services 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 and enhanced products and services, 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.

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

We invest significant amounts in acquiring and processing new seismic data to add to our ION Solutions' multi-client data library. A majority of these investments is funded by our customers, while the remainder is recovered through future data licensing fees. In 2008, we invested \$110.4 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 sometimes 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. For example, the rapid decline of oil and natural gas prices in late 2008 could cause E&P companies to significantly delay or reduce their current seismic capital spending budgets. Therefore, we may not be able to recover all of the costs of or earn any return on these investments. In periods in which sales do not meet original expectations, we may be required to record additional amortization and/or impairment charges to reduce the carrying value of our data library, which charges may be material to our results of operations in any period.

***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 the years ended December 31, 2008, 2007 and 2006; however, our top five customers in total represented approximately 30%, 31% and 29%, respectively, of our consolidated net revenues during those years. The loss of any of our significant customers or deterioration in our relations with any of them could materially and adversely affect our results of operations and financial condition.

Historically, a relatively small number of customers has accounted for the majority of our net revenues in any period. During the last ten years, our traditional seismic contractor customers have been rapidly consolidating, thereby consolidating the demand for our products. The loss of any of our significant customers to further consolidation could materially and adversely affect our results of operations and financial condition.

***Our ION Solutions and Data Management Solutions segments increase our exposure to the risks experienced by more technology-intensive companies.***

The businesses of ION Solutions and Data Management Solutions, being more concentrated in software, processing services, and proprietary technologies than our traditional business, have exposed us to the risks typically encountered by smaller technology companies that are more dependent on proprietary technology protection. These risks include:

- future competition from more established companies entering the market;
- product 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' products and services;
- 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.

***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 products and services 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 products and services in the seismic services market could apply downward pressure on prices for our products and services. The negative effects of the competitive environment in which we operate could have a material adverse effect on our results of operations.

***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 weather events. Our Marine Imaging Systems segment leases 104,000-square feet of facilities located in Harahan, Louisiana, in the greater New Orleans metropolitan area. In late August 2005, we suspended operations at this facility and evacuated and locked down the facility in preparation for Hurricane Katrina. This facility 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 facility 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 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 and product sales; costs associated with resuming production; reduced orders for our 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.

***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, the current global economic crisis 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 vibrator vehicles, our towed marine streamers, our redeployable ocean bottom cables, our Applied MEMS components, various components of VectorSeis Ocean, and certain electronic and ground components of our land acquisition systems. 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 products and services 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.

***Our outsourcing relationships may require us to purchase inventory when demand for products produced by third-party manufacturers is low.***

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.

Under our five-year supply agreement with Colibrys Ltd., we have committed to purchase a minimum number of MEMS accelerometers with an agreed upon cost of between \$5.0 million to \$8.0 million per year through 2009. If demand for our VectorSeis products, of which MEMS accelerometers are a component, proves to be less than we originally forecasted, we could be required to purchase MEMS accelerometers that we may never utilize.

***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. Any such claims, 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 affect on our results of operations and financial condition.

***Our operations, and the operations of our customers, are subject to numerous government regulations, which could adversely limit our operating flexibility.***

Our operations are subject to 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 products. For instance, regulations regarding the protection of marine mammals in the Gulf of Mexico may reduce demand for our air guns and other marine 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.

***If we, our option holders or our existing stockholders holding registration rights sell additional shares of our common stock in the future, the market price of our common stock could decline.***

The market price of our common stock could decline as a result of sales of a large number of shares of common stock in the market in the future, or the perception that such sales could occur. These sales and 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 prices that we deem appropriate.

At December 31, 2008, we had outstanding stock options to purchase up to 7,893,275 shares of our common stock. In addition, at that date there were 876,542 shares of common stock reserved for issuance under outstanding restricted stock awards.

In addition, under our agreement dated February 15, 2005 with Fletcher International, Ltd. ("Fletcher"), Fletcher has the ability to sell up to 9,669,434 shares of our common stock that may be issued to it upon conversion of our Series D Preferred Stock. See Item 7. — "Management's Discussion and Analysis of Financial Condition and Results of Operations — Liquidity and Capital Resources."

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

***Our certificate of incorporation and bylaws, Delaware law, our stockholders rights plan, the terms of our Series D Preferred Stock and contractual requirements under our agreement with Fletcher contain provisions that could discourage another company from acquiring us.***

Provisions of our certificate of incorporation and bylaws, Delaware law, our stockholders rights plan, the terms of our Series D Preferred Stock and our agreement with Fletcher may discourage, delay or prevent 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 dividend on our common stock, commonly referred to as a “poison pill,” which can be triggered after a person or group acquires, obtains the right to acquire or commences a tender or exchange offer to acquire, 20% or more of our outstanding common stock;
- providing for a classified board of directors with staggered terms;
- requiring supermajority stockholder voting to effect certain amendments to our certificate of incorporation and by-laws;
- 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 with Fletcher 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.

***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, 2008 were as follows:

<u>Operating Facilities</u>	<u>Square Footage</u>	<u>Segment</u>
Stafford, Texas.....	281,000	Land and Marine Imaging Systems
Calgary, Canada.....	131,000	Land Imaging Systems and ION Solutions
Houston, Texas .....	106,000	Global Headquarters and ION Solutions
Harahan, Louisiana .....	104,000	Marine Imaging Systems
Lacombe, Louisiana.....	87,000	Marine Imaging Systems
Jebel Ali, Dubai, United Arab Emirates.....	47,000	International Sales Headquarters and Land Imaging Systems
Denver, Colorado.....	29,000	ION Solutions
Voorschoten, The Netherlands.....	29,000	Land Imaging Systems
Edinburgh, Scotland.....	15,000	Data Management Solutions
	<u>829,000</u>	

Each of these operating facilities is leased by us under a long-term lease agreement. These lease agreements have terms that expire ranging from 2009 to 2018. See Note 16 of *Notes to Consolidated Financial Statements*.

In addition, we lease offices in Cranleigh and Norwich, England; Bahrain; Aberdeen, Scotland; Calgary, Canada; 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; and in Port of Spain, Trinidad. 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*

We have been named in various lawsuits or threatened actions that are incidental to our ordinary business. Such lawsuits and actions could increase in number as our business has expanded and we have grown larger. 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 impact on our financial condition, results of operations or liquidity.

## Item 4. *Submission of Matters to a Vote of Security Holders*

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, 2008:		
Fourth Quarter.....	\$ 13.95	\$ 2.14
Third Quarter.....	17.61	12.64
Second Quarter.....	18.26	13.82
First Quarter.....	16.05	11.04
Year ended December 31, 2007:		
Fourth Quarter.....	\$ 16.85	\$ 13.28
Third Quarter.....	17.02	11.86
Second Quarter.....	17.30	13.32
First Quarter.....	14.82	11.47

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 Amended Credit Facility prohibit us from paying dividends on or repurchasing shares of our common stock without the prior consent of the lenders.

Additionally, the terms of our Amended Credit Facility contain covenants that restrict us, subject to certain exceptions, from paying cash dividends on our common stock and repurchasing and acquiring shares of our common stock unless (i) there is no event of default under the Amended Credit Facility and (ii) the amount of cash used for cash dividends, repurchases and acquisitions does not, in the aggregate, exceed an amount equal to the excess of 30% of ION's domestic consolidated net income for our most recently completed fiscal year over \$15.0 million. See Item 7. "— *Management's Discussion and Analysis of Financial Condition and Results of Operations — Liquidity and Capital Resources.*"

On December 31, 2008, there were 417 holders of record of our common stock.

During the three months ended December 31, 2008, we withheld and subsequently cancelled 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:

<u>Period</u>	<u>(a)</u> <u>Total Number of</u> <u>Shares Acquired</u>	<u>(b)</u> <u>Average Price</u> <u>Paid Per Share</u>	<u>(c) Total Number of</u> <u>Shares Purchased as</u> <u>Part of Publicly</u> <u>Announced Plans or</u> <u>Program</u>	<u>(d) Maximum Number</u> <u>(or Approximate</u> <u>Dollar</u> <u>Value) of Shares</u> <u>That</u> <u>May Yet Be Purchased</u> <u>Under the Plans or</u> <u>Program</u>
October 1, 2008 to October 31, 2008.....	—	\$ —	Not applicable	Not applicable
November 1, 2008 to November 30, 2008.....	—	\$ —	Not applicable	Not applicable
December 1, 2008 to December 31, 2008.....	<u>23,145</u>	<u>\$ 2.81</u>	Not applicable	Not applicable
Total.....	<u>23,145</u>	<u>\$ 2.81</u>		

## Item 6. Selected Financial Data

The selected consolidated financial data set forth below with respect to our consolidated statements of operations for the years ended December 31, 2008, 2007, 2006, 2005 and 2004, and with respect to our consolidated balance sheets at December 31, 2008, 2007, 2006, 2005 and 2004 have been derived from our audited consolidated financial statements. Our results of operations and financial condition have been affected by acquisitions of companies and impairments of assets during the periods presented, which may affect the comparability of the financial information. In particular, the selected financial data set forth below reflects our acquisitions of GXT in June 2004 and ARAM in September 2008. Our results of operations for the year ended December 31, 2008 were negatively impacted from the impairment of our goodwill and intangibles assets totaling \$252.3 million and from the beneficial conversion charge of \$68.8 million associated with our outstanding convertible preferred stock. This information should not be considered as being necessarily 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.

	<b>Years Ended December 31,</b>				
	<b>2008</b>	<b>2007</b>	<b>2006</b>	<b>2005</b>	<b>2004</b>
	<b>(In thousands, except for per share data)</b>				
<b>Statement of Operations Data:</b>					
Product revenues .....	\$ 417,511	\$ 537,691	\$ 354,258	\$ 237,359	\$ 194,978
Service revenues .....	<u>262,012</u>	<u>175,420</u>	<u>149,298</u>	<u>125,323</u>	<u>45,663</u>
Net revenues .....	<u>679,523</u>	<u>713,111</u>	<u>503,556</u>	<u>362,682</u>	<u>240,641</u>
Cost of products .....	289,795	386,849	252,647	163,575	130,615
Cost of services .....	<u>181,980</u>	<u>119,679</u>	<u>91,592</u>	<u>86,619</u>	<u>40,075</u>
Gross profit .....	<u>207,748</u>	<u>206,583</u>	<u>159,317</u>	<u>112,488</u>	<u>69,951</u>
Operating expenses (income):					
Research, development and engineering .....	49,541	49,965	37,853	26,379	23,870
Marketing and sales .....	47,854	43,877	40,651	33,167	23,491
General and administrative .....	70,776	49,100	40,807	28,227	29,748
Impairment of goodwill and intangible assets .....	252,283	—	—	—	—
(Gain) loss on sale of assets .....	<u>117</u>	<u>(253)</u>	<u>58</u>	<u>99</u>	<u>(3,980)</u>
Total operating expenses .....	<u>420,571</u>	<u>142,689</u>	<u>119,369</u>	<u>87,872</u>	<u>73,129</u>
Income (loss) from operations .....	(212,823)	63,894	39,948	24,616	(3,178)
Interest expense .....	(12,723)	(6,283)	(5,770)	(6,134)	(6,231)
Interest income .....	1,439	1,848	2,040	843	1,276
Loss on debt conversion .....	—	(2,902)	—	—	—
Fair value adjustment of preferred stock redemption features .....	1,215	—	—	—	—
Other income (expense) .....	<u>2,985</u>	<u>(1,090)</u>	<u>(2,161)</u>	<u>820</u>	<u>220</u>
Income (loss) before income taxes and change in accounting principle .....	(219,907)	55,467	34,057	20,145	(7,913)
Income tax expense .....	<u>1,131</u>	<u>12,823</u>	<u>5,114</u>	<u>1,366</u>	<u>701</u>
Net income (loss) before change in accounting principle .....	(221,038)	42,644	28,943	18,779	(8,614)
Cumulative effect of change in accounting principle .....	—	—	398	—	—
Net income (loss) .....	(221,038)	42,644	29,341	18,779	(8,614)
Preferred stock dividends and accretion .....	3,889	2,388	2,429	1,635	—
Preferred stock beneficial conversion charge .....	<u>68,786</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
Net income (loss) applicable to common shares .....	<u>\$ (293,713)</u>	<u>\$ 40,256</u>	<u>\$ 26,912</u>	<u>\$ 17,144</u>	<u>\$ (8,614)</u>
Net income (loss) per basic share before change in accounting principle .....	\$ (3.06)	\$ 0.49	\$ 0.33	\$ 0.22	\$ (0.13)
Cumulative effect of change in accounting principle .....	—	—	0.01	—	—
Net income (loss) per basic share .....	<u>\$ (3.06)</u>	<u>\$ 0.49</u>	<u>\$ 0.34</u>	<u>\$ 0.22</u>	<u>\$ (0.13)</u>
Net income (loss) per diluted share before change in accounting principle .....	\$ (3.06)	\$ 0.45	\$ 0.32	\$ 0.21	\$ (0.13)
Cumulative effect of change in accounting principle .....	—	—	0.01	—	—
Net income (loss) per diluted share .....	<u>\$ (3.06)</u>	<u>\$ 0.45</u>	<u>\$ 0.33</u>	<u>\$ 0.21</u>	<u>\$ (0.13)</u>
Weighted average number of common shares outstanding .....	<u>95,887</u>	<u>81,941</u>	<u>79,497</u>	<u>78,600</u>	<u>65,759</u>
Weighted average number of diluted shares outstanding .....	<u>95,887</u>	<u>97,321</u>	<u>95,182</u>	<u>79,842</u>	<u>65,759</u>

**Balance Sheet Data (end of year):**

Working capital.....	\$ 267,155	\$ 220,522	\$ 170,342	\$ 153,761	\$ 101,121
Total assets.....	861,431	709,149	655,136	537,861	486,094
Notes payable and long-term debt.....	291,909	24,713	77,540	75,946	85,951
Stockholders' equity.....	325,070	476,240	369,668	327,545	308,760

**Other Data:**

Capital expenditures.....	\$ 17,539	\$ 11,375	\$ 13,704	\$ 5,304	\$ 5,022
Investment in multi-client library.....	110,362	64,279	39,087	19,678	4,168
Depreciation and amortization (other than multi-client library).....	33,052	26,767	22,036	23,497	18,345
Amortization of multi-client library.....	80,532	37,662	25,011	10,707	5,870

**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 that appear elsewhere in this Annual Report on Form 10-K.*

**Executive Summary**

*Our Business.* We are a technology-focused seismic solutions company that provides advanced seismic data acquisition equipment, seismic software and seismic planning, processing and interpretation services to the global energy industry. Our products, technologies and services are used by oil and gas exploration and production ("E&P") companies and seismic contractors to generate high-resolution images of the Earth's subsurface for exploration, exploitation and production operations.

We operate our company through four business segments. Three of our business segments — Land Imaging Systems, Marine Imaging Systems and Data Management Solutions — make up our ION Systems division. Our fourth business segment is our ION Solutions division.

- *Land Imaging Systems* – cable-based, cableless and radio-controlled seismic data acquisition systems, digital and analog geophone sensors, vibroseis vehicles (i.e., vibrator trucks) and source controllers for detonator and vibrator energy sources.
- *Marine Imaging Systems* – towed streamer and redeployable ocean bottom cable seismic data acquisition systems and shipboard recorders, streamer positioning and control systems and energy sources (such as air guns and air gun controllers).
- *Data Management Solutions* – software systems and related services for navigation and data management involving towed marine streamer and seabed operations.
- *ION Solutions* – advanced seismic data processing services for marine and land environments, seismic data libraries, and Integrated Seismic Solutions ("ISS") services.

Our current business strategy is predicated on successfully executing seven key imperatives:

- Continuing to manage our cost structure to reflect current market and economic conditions while keeping key strategic technology programs progressing with an overall goal of enabling E&P companies to solve their complex reservoir problems most efficiently and effectively;
- Expanding our ION Solutions business in new regions with new customers and new land and marine service offerings, including proprietary services for owners and operators of oil and gas properties;
- Globalizing our ION Solutions data processing business by opening advanced imaging centers in new strategic locations, and expanding our presence in the land seismic processing segment, with emphasis on serving the emerging 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;

- Expanding our seabed imaging solutions business using our VectorSeis<sup>®</sup> Ocean (VSO) 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;
- Utilizing our recent ARAM acquisition as a framework to increase our market share and profitability in cable-based land acquisition systems; and
- Furthering the commercialization of FireFly<sup>®</sup>, our cableless full-wave land data acquisition system, through sales and also through a services/rental model to advance the diffusion rate.

*Our Current Debt Levels.* As a result of the ARAM acquisition, we have increased our indebtedness significantly. As of December 31, 2008, we had outstanding total indebtedness of approximately \$291.9 million, including capital lease obligations. Total indebtedness on that date included \$120.3 million in borrowings under five-year term indebtedness and \$66.0 million in borrowings under our revolving credit facility, in each case incurred under our amended commercial banking credit facility (the “Amended Credit Facility”). We also had as of that date \$40.8 million of indebtedness outstanding under a Bridge Loan Agreement, dated as of December 30, 2008, with Jefferies Finance LLC (“Jefferies”) as administrative agent, sole bookrunner, sole lead arranger and lender (the “Bridge Loan Agreement”), which indebtedness matures on January 31, 2010. In addition, we had \$35.0 million of subordinated indebtedness outstanding under an amended and restated subordinated promissory note (the “Amended and Restated Subordinated Note”) that we issued to one of ARAM’s selling shareholders in exchange for a previous promissory note we had issued to that selling shareholder as part of the purchase price consideration for the acquisition of ARAM.

As of December 31, 2008, we had available \$34.0 million (without giving effect to \$1.2 million of outstanding letters of credit) of additional revolving credit borrowing capacity under our Amended Credit Facility. However, as of February 23, 2009, we had available only \$0.8 million of additional revolving credit borrowing capacity, which can be used only to fund further letters of credit under the Amended Credit Facility. Our cash and cash equivalents as of February 23, 2009 were approximately \$48.3 million compared to \$35.2 million at December 31, 2008.

We intend to pay or refinance the indebtedness that we borrowed to complete the ARAM acquisition, which includes the Bridge Loan Agreement scheduled to mature on January 31, 2010 and the Amended and Restated Subordinated Seller Note scheduled to mature on September 17, 2013 (see further discussion at Note 11 “*Notes Payable, Long-Term Debt and Lease Obligations*” of the Notes to the Consolidated Financial Statements), and are continuing to explore methods to accomplish this. Our ability to obtain any refinancing, including any additional debt financing, whether through the issuance of new debt securities or otherwise, and the terms of any such financing are dependent on, among other things, our financial condition, financial market conditions within our industry, credit ratings and numerous other factors. There can be no assurance that we will be able to obtain financing on acceptable terms or within an acceptable time, if at all. If we are unable to obtain financing on terms and within a timeframe acceptable to us and we are unable to pay the debts as they become due, we could be in default under our debt instruments and agreements, which could have a material adverse effect on our operations, financial condition, ability to compete or ability to comply with regulatory requirements. Any such defaults, if not rescinded or cured, would have a materially adverse effect on our operations, financial condition and cash flows. See “— *Liquidity and Capital Resources — Sources of Capital*” below and Item 1A — “*Risk Factors*” above.

In January 2009, Standard and Poor’s Rating Services downgraded our outlook from “stable” to “negative” due to expectations of a weakening seismic market.

At December 31, 2008, we were in compliance with all covenants under the Amended Credit Facility and the Bridge Loan Agreement. We believe that, based on our 2009 operating plan, we will remain in compliance with the financial covenants during 2009. As discussed in Item 1A — “*Risk Factors*” of this Annual Report on Form 10-K, however, there are scenarios under which we could fall out of compliance with the financial covenants contained in the Amended Credit Facility and the Bridge Loan Agreement. Our failure to comply with these covenants could result in an event of default that, if not cured or waived, could have a material adverse effect on our financial condition, results of operations, and debt service capability. If we were not able to satisfy all of the financial covenants, we would need to seek to amend, or seek one or more waivers of, the covenants under the Amended Credit Facility and the Bridge Loan Agreement. There can be no assurance that we would be able to obtain any such waivers or amendments, in which case we would likely seek to obtain new secured debt, unsecured debt or equity financing. However, there also can be no assurance that such debt or equity financing would be available on terms acceptable to us or at all. In the event that we would need to amend the Amended Credit Facility and the Bridge Loan Agreement, or obtain new financing, we would likely incur substantial up front fees and higher interest costs, and other terms in the amendment would likely be less favorable than those currently in the Amended Credit Facility or the Bridge Loan Agreement.

*Economic and Credit Market Conditions.* Demand for our products and services is cyclical and substantially dependent upon activity levels in the oil and gas industry, particularly our customers' willingness to expend their capital for oil and natural gas exploration and development projects. This demand is highly sensitive to current and expected future oil and natural gas prices.

The current global financial crisis, which has contributed, among other things, to significant reductions in available capital and liquidity from banks and other providers of credit, has resulted in the worldwide economy entering into a recessionary period, which may be prolonged and severe. During 2008, oil prices were highly volatile, increasing to record levels in the second quarter of 2008 and then sharply declining thereafter. Falling crude oil prices have prompted the Organization of Petroleum Exporting Countries (OPEC) to announce reductions in oil production quotas. U.S. inventory levels for natural gas rose higher than expected during 2008, and North American natural gas prices (NYMEX) have fallen from the \$13.00 per Mcf level during the summer of 2008 to below \$5.00 per Mcf. The uncertainty surrounding future economic activity levels and the tightening of credit availability has resulted in decreased activity levels for most of our businesses. Our land seismic businesses in North America and Russia have been particularly adversely affected. We expect that exploration and production expenditures will be constrained to the extent E&P companies and seismic contractors are limited in their access to the credit markets as a result of further disruptions in, or a more conservative lending practices in, the credit markets. There is significant uncertainty about future activity levels and the impact on our businesses.

We believe that we are in a down cycle for our products and services that will likely last for at least one year, with an expected recovery starting sometime in 2010, depending on the depth and length of the current downturn. Furthermore, we understand that both our seismic contractor customers and the E&P companies that are users of our products, services and technology have reduced their capital spending.

While the current global recession and the decline in oil and gas prices have slowed demand in the near term, we believe that overcoming the long-term decline rates in oil and gas production, compared to the discoveries of new oil and gas reserves, will prove to be difficult. We believe that technology that adds a competitive advantage through cost reductions or improvements in productivity will continue to be valued in our marketplace, even in 2009. For example, we believe that our new technologies, such as FireFly, DigiFIN and Orca, will continue to attract interest because they are designed to deliver improvements in image quality and more productive delivery systems. We are re-assigning much of our sales efforts for our ARIES land seismic systems from North America to international sales channels (other than Russia). In late 2008, we announced the commercialization of our ARIES II system, which we believe will provide more flexibility for users.

While it is difficult to determine the length and severity of the downturn, we believe the long-term prospects for the exploration and production industry and our company are still fundamentally positive. International oil companies (IOC's) continue to have difficulty accessing new sources of supply, partially as a result of the growth of national oil companies. This situation is also affected by increasing environmental issues, particularly in North America, where companies may be temporarily or permanently denied access to some of the most promising exploration opportunities both onshore and offshore. It is estimated that approximately 85% -90% of the world's reserves are controlled by national oil companies, which increasingly prefer to develop resources on their own or by working directly with the oil field services and equipment providers. These dynamics often prevent capital, technology and project management capabilities from being optimally deployed on the best exploration and production opportunities, which results in global supply capacity being less than it otherwise might be. As a consequence, the pace of new supply additions may be insufficient to keep up with demand once the global recession ends.

In response to this downturn, we have taken measures to further reduce costs in our businesses, and particularly in our land seismic business in connection with our integration of ARAM into our legacy land product lines. We expect that 2009 will prove to be a challenging year for our North America and Russia land systems and vibroseis truck sales. In addition, we slowed our capital spending, including investments for our multi-client data library, during the fourth quarter of 2008 and are projecting capital expenditures for 2009 at \$65 million to \$85 million compared with \$128.0 million for 2008. Of that total, we expect to spend approximately \$60 million to \$75 million on investments in our multi-client data library during 2009, and we anticipate that a majority of this investment will be underwritten by our customers. To the extent our customers' commitments do not reach an acceptable level of pre-funding, the amount of our anticipated investment could significantly decline. The remaining sums are anticipated to be funded from internally generated cash.

Through a variety of other resources, we are exploring ways to reduce our cost structure. We have taken a deliberate approach to identifying the weaknesses in our business and, in light of the tight credit markets, plan to take more conservative approach in making extended financing terms available to our customers. The most significant cost reduction to date related to a 13% headcount reduction in the fourth quarter of 2008 and the first quarter of 2009 to adjust to the expected lower levels of activity, resulting in an expected savings of \$12.6 million per year. We plan to reduce our research and development spending but will continue to fund strategic programs to position ourselves for the expected rebound in economic activity. Overall, we will give

priority to generating cash flow and taking steps to reduce our cost structure while maintaining our long-term commitment to continued technology development.

*2008 Developments.* The year 2008 was a year of contrasts for the oil and gas industry as a whole and for our company. In July 2008, oil prices reached an all-time high of nearly \$150 per barrel. Market conditions changed dramatically commencing in September 2008 as disruption in the U.S. financial markets prompted a global economic crisis, resulting in a dramatic decrease in demand for a wide variety of products and services throughout the world, including the demand for oil and natural gas. By the end of 2008, oil prices had fallen to approximately \$40 per barrel and continued at such low prices into 2009. The sharp decline in commodity prices, combined with a severe credit shortfall and increasing costs of credit, resulted in E&P companies decreasing, and in some cases halting, their E&P capital and expenditure plans.

Since 2004, we have grown at a rapid pace, and through the beginning of the fourth quarter of 2008, were poised to continue that success. In late 2008, however, economic conditions began to have a material impact on our industry and the demand for our products, particularly in our Land Imaging Systems segment. In our Land Imaging Systems segment, revenues for the fiscal year 2008 declined by 38.3% compared to this segment's revenues for the same period in 2007. This decrease was principally due to the decline in business activity during the fourth quarter of 2008 resulting from the decline of the global economy, coupled with the fact that significant revenue events that occurred during 2007 were not duplicated in 2008, including: (i) the shipment of 14 land seismic acquisition systems ordered by Oil and Natural Gas Corporation Limited (ONGC), the Indian national oil company, and (ii) the sale of the initial FireFly system. During the fiscal year 2008, our Marine Imaging Systems and ION Solutions segments experienced significant percentage increases in revenues compared to their revenues for the fiscal year ended December 31, 2007. Our Data Management Solutions segment's revenues remained relatively stable with a \$0.4 million decline compared to the prior year.

Our overall total net revenues of \$679.5 million for the fiscal year ended December 31, 2008 decreased \$33.6 million, or 4.7%, compared to total net revenues for 2007. Our overall gross margin percentage for the twelve months of 2008 improved to 30.6% compared to 29.0% for 2007. However, the economic developments in the fourth quarter of 2008 resulted in significantly lower revenues during what has historically been our strongest quarter. In the fourth quarter of 2008, we recorded a loss from operations of (\$274.4) million compared to \$29.6 million income from operations for fiscal 2007, mainly due to the impairment of goodwill and intangible assets of \$252.3 million.

Developments during 2008 and early 2009 include the following:

- On September 18, 2008, we acquired ARAM. See further discussion below at “— *ARAM Acquisition*” of this Item 2.
- In March 2008, we completed acquisition of a basin-scale seismic survey library that provides a new regional 2D seismic framework of the Eastern Java Sea and the Makassar Straits, two prospective areas offshore Indonesia and Malaysia. Data for nearly 10,000 kilometers were acquired during the acquisition phase of this project.
- We experienced strong sales of our new DigiFIN™ advanced streamer command and control systems as market demand continued to be strong for this new product.
- In June 2008, our first DigiSTREAMER™ solid streamer acquisition system was successfully deployed in a commercial acquisition program in the North Sea.
- On July 3, 2008, we entered into a \$100.0 million amended and restated revolving credit facility. In September and December 2008, we amended this facility to add a new \$125 million term loan sub-facility to finance our acquisition of ARAM, to permit us to implement a shareholder rights plan and to accommodate the terms of our refinancing transactions on December 30, 2008. See “— *Liquidity and Capital Resources — Sources of Capital — Revolving Line of Credit and Term Facilities*” below.
- In August 2008, we successfully completed the acquisition phase of a multi-client seismic imaging project using our FireFly cableless land acquisition system at Durham Ranch in Northwest Colorado. More than 6,000 VectorSeis-enabled FireFly stations were deployed with 10,500 receiver points of full-wave seismic data acquired.
- In October 2008, we announced that we had been awarded a multi-year, marine multi-component processing contract by Mobil Producing Nigeria (MPN) Unlimited, operator of a joint venture with Nigeria National Petroleum Corporation. The contract was the largest data processing project in our history and consisted of providing advanced imaging services for a series of seabed seismic surveys to be acquired over the next several years.

- In November 2008, we announced the completion of our basin-scale ArcticSPAN™. This new data complements the original 6,700 kilometers of ArcticSPAN data acquired during 2006. In total, more than 12,000 km of ultra-deep, basin-scale 2D data, imaged with advanced processing and depth imaging techniques from our ION Solutions segment, are currently available.
- In November 2008, after successful field trials with Conquest Seismic Services, Inc. in North Dakota, we announced the commercialization of our cable-based ARIES II™ seismic recording platform. ARIES II builds upon the market success of ARIES I, but implements a new system architecture that is designed to improve channel capacity, efficient equipment deployment and system performance.
- In November 2008, we were awarded a fleet-wide contract in excess of \$25 million by The Polarcus Group of Companies to equip their vessels with four streamer positioning and control technologies. These technologies include DigiFIN, CompassBIRD™, DigiRANGE II™ and Orca command and control systems.
- In January 2009, we announced our first commercial delivery of a multi-thousand station FireFly system equipped with digital, full-wave VectorSeis sensors. The deployment of ION's first commercialized FireFly system is taking place in a producing hydrocarbon basin containing reservoirs that have proven difficult to image with conventional seismic techniques.

*Key Financial Metrics.* The following table provides an overview of key financial metrics for our company as a whole and our four business segments during the twelve months ended December 31, 2008, compared to those for fiscal 2007 and 2006 (in thousands, except per share amounts):

	<b>Years Ended December 31,</b>		
	<b>2008</b>	<b>2007</b>	<b>2006</b>
Net revenues:			
ION Systems Division:			
Land Imaging Systems .....	\$ 200,493	\$ 325,037	\$ 205,779
Marine Imaging Systems .....	182,710	177,685	127,927
Data Management Solutions .....	<u>37,240</u>	<u>37,660</u>	<u>23,198</u>
Total ION Systems Division .....	420,443	540,382	356,904
ION Solutions Division .....	<u>259,080</u>	<u>172,729</u>	<u>146,652</u>
Total .....	<u>\$ 679,523</u>	<u>\$ 713,111</u>	<u>\$ 503,556</u>
Income (loss) from operations:			
ION Systems Division:			
Land Imaging Systems .....	\$ (13,662)	\$ 28,681	\$ 13,463
Marine Imaging Systems .....	52,624	44,727	30,258
Data Management Solutions .....	<u>22,298</u>	<u>17,290</u>	<u>7,461</u>
Total ION Systems Division .....	61,260	90,698	51,182
ION Solutions Division .....	40,534	21,646	28,648
Corporate .....	(62,334)	(48,450)	(39,882)
Impairment of goodwill and intangible assets .....	<u>(252,283)</u>	<u>—</u>	<u>—</u>
Total .....	<u>\$ (212,823)</u>	<u>\$ 63,894</u>	<u>\$ 39,948</u>
Net income (loss) applicable to common shares .....	<u>\$ (293,713)</u>	<u>\$ 40,256</u>	<u>\$ 26,912</u>
Basic net income (loss) per common share .....	<u>\$ (3.06)</u>	<u>\$ 0.49</u>	<u>\$ 0.34</u>
Diluted net income per (loss) common share .....	<u>\$ (3.06)</u>	<u>\$ 0.45</u>	<u>\$ 0.33</u>

We intend that the discussion of our financial condition and results of operations that follows 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.

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

### **ARAM Acquisition**

In July 2008, we signed a purchase agreement to acquire all of the outstanding shares of ARAM Systems Ltd., a Canadian-based provider of cable-based land seismic recording systems, and its affiliated company, Canadian Seismic Rentals Inc. (sometimes collectively referred to herein as “ARAM”), from their shareholders (the “Sellers”). Founded in 1971, ARAM

designs, manufactures, sells and leases land seismic data acquisition systems, specializing in analog cabled systems. Over the last several years, we believe that ARAM has demonstrated an ability to gain presence in an expanding global market for cable-based land seismic recording systems. ARAM's ARIES recording systems, known for reliability and ease of use, have been increasingly used by North American contractors. We believe the scope and scale of the combined entity will offer our customers expanded and accelerated access to a broader range of instrumentation options and enable our consolidated land business to grow and deliver bottom-line results more effectively than either company could on its own. In addition to synergies associated with the consolidation of products and technical and operations personnel, we believe we have an opportunity to leverage each other's customer base as well as incorporating ARAM's ability to design and manufacture high-margin land imaging systems within ION.

On September 17, 2008, we, ARAM and the Sellers entered into an Amended and Restated Share Purchase Agreement (the "Amended Purchase Agreement"), that amended the terms of the original share purchase agreement executed in July 2008. On September 18, 2008, we, through our acquisition subsidiary, 3226509 Nova Scotia Company ("ION Sub") (see Note 2 — "ARAM Acquisition" of the *Notes to Consolidated Financial Statements*), completed the acquisition of the outstanding shares of ARAM in accordance with the terms of the Amended Purchase Agreement.

In exchange for the shares of ARAM, we, through ION Sub, (i) paid the Sellers aggregate cash consideration of \$236 million (which amount was net of certain purchase price adjustments made at the closing), (ii) issued to one of the Sellers 3,629,211 shares of our common stock and (iii) issued to one of the Sellers an unsecured senior promissory note in the original principal amount of \$35.0 million (the "Senior Seller Note") and an unsecured subordinated promissory note (the "Subordinated Seller Note") in the original principal amount of \$10.0 million.

In connection with our acquisition of ARAM, in July 2008, we, ION International S.à r.l. ("ION Sàrl") and certain of our domestic and other foreign subsidiaries (as guarantors) entered into a \$100.0 million amended and restated revolving credit facility under the terms of an Amended and Restated Credit Agreement dated July 3, 2008, as amended to date, (the "Credit Agreement"), with HSBC Bank USA, N.A., as administrative agent, joint lead arranger and joint bookrunner, ABN AMRO Incorporated, as joint lead arranger and joint bookrunner, CitiBank, N.A., as syndication agent, and the lenders party thereto. On September 17, 2008, we, ION Sàrl and certain of our domestic and other foreign subsidiary guarantors amended the terms of the Credit Agreement by entering into a first amendment to the Credit Agreement, which added a new \$125.0 million term loan sub-facility. In December 2008, we, ION Sàrl and certain of our domestic and other foreign subsidiary guarantors entered into two additional amendments to the Credit Agreement that further modified its terms. Our commercial banking credit facility, as amended to the date of this filing, is referred to as the "Amended Credit Facility." See — "*Liquidity and Capital Resources — Sources of Capital — Revolving Line of Credit and Term Facilities*" below.

We financed the cash portion of the purchase price for ARAM with (i) \$72.0 million of revolving credit borrowings and \$125 million of five-year term loan indebtedness under our Amended Credit Facility (see — "*Liquidity and Capital Resources — Sources of Capital — Revolving Line of Credit and Term Facilities*" below), and (ii) \$40.0 million in gross proceeds evidenced by a Senior Increasing Rate Note that we issued to Jefferies Finance CP Funding LLC at the completion of the ARAM acquisition (see — "*Liquidity and Capital Resources — Sources of Capital — Bridge Loan*" below).

The terms of the Amended Purchase Agreement had required us to deposit \$35.0 million cash (representing a portion of the cash purchase price for the acquisition) into escrow on a date after closing to secure the parties' obligations to each other for indemnification liabilities and post-closing purchase price adjustments. Additionally, the terms of the Senior Seller Note provided that when the Senior Seller Note was repaid, proceeds from that repayment were to be applied to fund the escrow account. We also entered into guarantees dated September 18, 2008 to guarantee the obligations of ION Sub under the Senior Seller Note and the Subordinated Seller Note.

We had expected to repay the indebtedness under the Senior Increasing Rate Note, the Senior Seller Note and the Subordinated Seller Note and pay down \$72.0 million in revolving credit indebtedness under our Amended Credit Facility by issuing additional long-term debt before the end of 2008. In that regard, we had entered into a commitment letter dated September 18, 2008 (the "Commitment Letter"), with Jefferies Funding LLC ("Jefferies Funding"), pursuant to which Jefferies Funding agreed, subject to the terms and upon satisfaction of the conditions contained in the Commitment Letter, to act in the capacities of sole advisor, sole administrative agent, sole collateral agent (if applicable), sole book-runner, sole lead arranger and sole syndication agent in connection with a proposed US\$150.0 million senior bridge loan facility. This proposed senior bridge loan facility was to be drawn upon in the event that certain other long-term indebtedness that we would attempt to raise, including high-yield unsecured notes, was not successful. The Commitment Letter was to terminate by its terms on December 31, 2008.

On November 14, 2008, we issued a press release to announce our intention to offer and sell, subject to market and other conditions, \$175.0 million aggregate principal amount of unsecured senior notes due 2013 in transactions exempt from



registration under the Securities Act (including pursuant to Rule 144A under the Securities Act). However, prevailing credit market conditions prevented us from successfully completing any issuance of the senior notes. In December 2008, marketing efforts for the senior notes offering ceased. In December 2008, we repaid the \$72.0 million revolving credit indebtedness under the Amended Credit Facility from internally-generated cash. On December 30, 2008, we further amended our Amended Credit Facility and refinanced our Senior Increasing Rate Note. See — “*Liquidity and Capital Resources*” below.

*Refinancing ION’s Obligations to the Sellers.* As part of the refinancing transactions that closed on December 30, 2008, the terms of the Senior Seller Note were amended and restated, and new subordination provisions were added, by ION Sub’s issuing an Amended and Restated Subordinated Note in replacement of and exchange for the Senior Seller Note. The Amended and Restated Subordinated Note was issued to the same Seller holding the Senior Seller Note, Maison Mazel Ltd. (formerly known as 1236929 Alberta Ltd.) (“Maison Mazel”). The principal amount of the Amended and Restated Subordinated Note remained at \$35.0 million and the new maturity date under the Amended and Restated Subordinated Note was extended from September 17, 2009 to September 17, 2013. Interest on the outstanding principal amount under the note is payable quarterly. We also entered into an Amended and Restated Guaranty dated December 30, 2008, evidencing our guaranty obligations with respect to the liabilities of ION Sub under the Amended and Restated Subordinated Note.

Also, in connection with the refinancing transactions, ION, ION Sub, ARAM and Maison Mazel entered into an Assignment Agreement dated as of December 30, 2008, under which ION, ION Sub and ARAM assigned to Maison Mazel their rights to an expected Canadian federal income tax refund (the “Refund Claim”), in exchange for the termination, satisfaction and cancellation by Maison Mazel of the Subordinated Seller Note, and our guaranty of the Subordinated Seller Note. However, based upon relevant accounting literature, while legally extinguished, the liability under the Subordinated Seller Note was not extinguished on the balance sheet as of December 31, 2008 and was included as short-term debt. The income tax refund is also reflected on our balance sheet (netted against our income taxes payable) at December 31, 2008. As of February 20, 2009, approximately \$7.0 million of the Refund Claim had been received by ARAM and applied against this liability.

We, ION Sub, ARAM and Maison Mazel also entered into a Release Agreement dated as of December 30, 2008, whereby the parties agreed to:

- terminate the \$35.0 million purchase price escrow arrangements they had agreed to in the Amended Purchase Agreement, and
- release Maison Mazel and the other Sellers from their obligations under the Amended Purchase Agreement to indemnify us, ION Sub and other ION-related “indemnified persons” for breaches by the Sellers of certain of their representations and warranties contained in the Amended Purchase Agreement.

In addition, the parties agreed to certain procedural changes regarding the timing of and the process for the final purchase price adjustments. It is expected that all of the purchase price adjustments under the Amended Purchase Agreement will be completed during the first half of 2009, following the date that all of the Canadian income tax refund pursuant to the Refund Claim is received. For further information regarding our additional debt financing, see — “*Liquidity and Capital Resources*” below.

Our results of operations and financial condition as of and for the twelve months ended December 31, 2008 were affected by our acquisition of ARAM on September 18, 2008, which may affect the comparability of certain of the other financial information contained in this Form 10-K.

## **Results of Operations**

### ***Year Ended December 31, 2008 Compared to Year Ended December 31, 2007***

*Net Revenues.* Net revenues of \$679.5 million for the year ended December 31, 2008 decreased \$33.6 million, compared to the corresponding period of 2007, principally due to the sharp decline in the global economy, which caused decreased activity and demand for seismic services, most notably in our Land Imaging Systems segment. Land Imaging Systems’ net revenues decreased by \$124.5 million, to \$200.5 million compared to \$325.0 million during the twelve months ended December 31, 2007. Despite the inclusion of ARAM’s operating results, the division was strongly impacted by the market decline, which resulted in reduced sales of both land systems and vibroseis trucks. This decrease was also made more pronounced by the inclusion of several large 2007 sales of our land acquisition systems that were not duplicated in 2008, including the sale of 14 land acquisition systems to ONGC, the sale of our initial version of FireFly and significantly increased vibrator truck sales in 2007. Marine Imaging Systems’ net revenues increased \$5.0 million to \$182.7 million, compared to \$177.7 million during the year ended December 31, 2007,

principally due to stronger sales of our marine positioning products, including sales related to the full commercialization of our DigiFIN advanced streamer command and control system, the first two commercial sales of our DigiSTREAMER™ system and stronger sales of our marine seismic data acquisition products. We delivered to RXT the fifth VSO system in 2008; however, VSO system sales decreased compared to 2007 mainly due to the timing of the sales. Our Data Management Solutions' net revenues decreased slightly by \$0.5 million, to \$37.2 million compared to \$37.7 million in 2007. This change primarily reflects continued energy industry demand for marine seismic work, slightly offset by the impact of foreign currency exchange rates between the GBP and the U.S. Dollar in 2008.

ION Solutions' net revenues increased \$86.4 million, to \$259.1 million, or 50%, compared to \$172.7 million in 2007. This increase was due to larger demand related to higher proprietary processing revenues, pre-funded multi-client seismic surveys primarily off the coasts of Alaska and South America and sales of off-the-shelf seismic data sales. Sales of our pre-funded multi-client seismic surveys and of off-the-shelf seismic data increased approximately 60% in 2008 compared to 2007.

*Gross Profit and Gross Profit Percentage.* Gross profit of \$207.7 million for the year ended December 31, 2008 increased \$1.1 million compared to the prior year. Gross profit percentage for the twelve months ended December 31, 2008 was 31% compared to 29% in the prior year. The 2% improvement in our gross margin percentage was primarily due to the mix of business, including an increase in system sales as well as higher margin sales from our Data Management Solutions segment, including significantly increased sales of our Orca software. This increase was partially offset by slightly lower margins in our Land Imaging System division relating to inventory write downs directly related to the integration activities of ARAM into our current operating segment and in our ION Solutions segment due to the change in product mix with higher levels of proprietary processing sales. During 2008, we also wrote down the carrying values of certain of our mature analog land systems and related equipment inventory, resulting in a \$10.1 million charge.

*Research, Development and Engineering.* Research, development and engineering expense was \$49.5 million, or 7.3% of net revenues, for the year ended December 31, 2008, a decrease of \$0.5 million compared to \$50.0 million, or 7.0% of net revenues, for the corresponding period last year. We expect to continue to incur research, development and engineering expenses in 2009 at a more conservative rate than in prior years, as we continue to invest in our next generation of seismic acquisition products and services. For a discussion of our product research and development programs in 2008, see Item 1. "Business — Product Research and Development."

*Marketing and Sales.* Marketing and sales expense of \$47.9 million, or 7.0% of net revenues, for the year ended December 31, 2008 increased \$4.0 million compared to \$43.9 million, or 6.2% of net revenues, for the corresponding period last year. The increase in our sales and marketing expenditures reflects the hiring of additional sales personnel, increased exhibit and convention costs and increased travel associated with our global marketing efforts. This increase was partially offset by a decrease in our corporate branding expenses in 2008, due to the higher expenses in 2007 associated with our name change that year.

*General and Administrative.* General and administrative expense of \$70.8 million for the year ended December 31, 2008 increased \$21.7 million compared to \$49.1 million in the prior year. General and administrative expenses as a percentage of net revenues for the years ended December 31, 2008 and 2007 were 10.4% and 6.9%, respectively. The increase in expenditures was primarily due to increases in our bad debt reserves of \$4.6 million, in our professional fees relating to our financing efforts of \$5.7 million, in salaries and related expenses of \$8.7 million due to the hiring of additional personnel and an increase in general office expenses related to our acquisition of ARAM. This increase was partially offset by a decrease in bonus expense due to the lower operating performance compared to 2007's operating performance.

*Impairment of Goodwill and Intangible Assets.* At December 31, 2008, we evaluated our reporting units for potential impairment. Based upon our evaluation and given the current market conditions, we determined that approximately \$252.3 million of goodwill and intangible assets related to our Land Imaging Systems, ARAM Systems and ION Solutions reporting units were impaired. We recorded the expense as of December 31, 2008 and reduced the carrying amount of our goodwill and intangible assets.

*Income Tax Expense.* Income tax expense for the year ended December 31, 2008 was \$1.1 million compared to income tax expense of \$12.8 million for the twelve months ended December 31, 2007. The decrease in tax expense during 2008 primarily relates to reduced consolidated income from operations and changes to the valuation allowance on U.S. deferred tax assets. This decrease was partially offset by deferred taxes on the utilization of acquired net operating losses. We continue to maintain a valuation allowance for a significant portion of our U.S. net deferred tax assets. Our effective tax rate for the year ended December 31, 2008 was (0.5%) as compared to 23.1% for the similar period during 2007. The decreased effective tax rate for 2008 relates primarily to the impairment of goodwill, which has no tax benefit, and a reduction in the valuation allowance on U.S. deferred tax assets offset by deferred tax expense related to the utilization of acquired net operating losses of \$3.5 million. The

2007 and 2008 effective tax rates were lower than the statutory rate due to the goodwill impairment in 2008 and to the utilization of previously reserved U.S. deferred tax assets in both 2007 and 2008.

*Preferred Stock Dividends and Accretion.* The preferred stock dividend relates to our Series D Preferred Stock that we issued in February 2005, December 2007 and February 2008. Quarterly dividends must be paid in cash. Dividends are paid at a rate equal to the greater of (i) 5% per annum or (ii) the three month LIBOR rate on the last day of the immediately preceding calendar quarter plus 2½% per annum. All dividends paid to date on the Series D Preferred Stock have been paid in cash. The Series D Preferred Stock dividend rate was 6.55% at December 31, 2008.

*Adjustments from Preferred Stock Redemption and Conversion Features.* Our results of operations for 2008 reflected additional credits to and charges against our earnings resulting from our outstanding Series D-1 Cumulative Convertible Preferred Stock (the “Series D-1 Preferred Stock”), Series D-2 Cumulative Convertible Preferred Stock (the “Series D-2 Preferred Stock”) and Series D-3 Cumulative Convertible Preferred Stock (the “Series D-3 Preferred Stock” and together with the Series D-1 Preferred Stock and the Series D-2 Preferred Stock, the “Series D Preferred Stock”).

On November 28, 2008, we delivered a notice (the “Reset Notice”) to Fletcher International, Ltd. (“Fletcher”) of our election to reset the conversion prices on our outstanding shares of Series D Preferred Stock. See “– Liquidity and Capital Resources – Sources of Capital - Cumulative Convertible Preferred Stock.” Fletcher is the holder of all of the outstanding shares of our Series D Preferred Stock. By delivering the Reset Notice to Fletcher, we reset the conversion prices on all of our Series D Preferred Stock to \$4.4517 per share, in accordance with the terms of our agreement with Fletcher dated as of February 15, 2005 (as amended, the “Fletcher Agreement”). Under the Fletcher Agreement, if a 20-day volume-weighted average trading price per share of our common stock fell below \$4.4517 (the “Minimum Price”), we would be required to (i) thereafter pay all dividends on shares of Series D Preferred Stock only in cash and (ii) elect to either (a) satisfy future redemption obligations by distributing only cash (or a combination of cash and common stock), or (b) reset the conversion prices of all of outstanding shares of Series D Preferred Stock to the Minimum Price, in which event the Series D Preferred Stock holder would have no further rights to call for the redemption of those shares.

We had originally classified the preferred stock outside of stockholders’ equity on the balance sheet below total liabilities. However, with the termination of the redemption rights, there are no other provisions that require cash redemption. Therefore, in the fourth quarter of 2008, we reclassified the preferred stock to stockholders’ equity.

*Fair Value Adjustment of Preferred Stock Redemption Features.* The redemption features of our outstanding Series D-2 Preferred Stock and Series D-3 Preferred Stock had been considered embedded derivatives that were required to be bifurcated and accounted for separately at their fair value during 2008. These features had been bifurcated as a separate line item in the liabilities section of our consolidated balance sheet. For each quarter during 2008, these redemption features had been re-measured at quarter-end at their fair value with any resulting gain or loss recognized below income from operations and reflected in earnings for the period. As a result of the election we made under the Reset Notice, Fletcher is no longer permitted to redeem any shares of our Series D Preferred Stock and the original value of the redemption features of \$1.2 million was credited to our earnings in the fourth quarter of 2008.

*Preferred Stock Beneficial Conversion Charge.* As a result of the Reset Notice and the adjustment in November 2008 of the conversion prices for the Series D Preferred Stock to the Minimum Price of \$4.4517 per share under the Fletcher Agreement, we recognized in the fourth quarter of 2008 a contingent beneficial conversion feature of the Series D Preferred Stock as a non-cash charge to earnings in the amount of \$68.8 million. Under applicable financial accounting guidance, the adjustment of reducing the conversion price was deemed to be equivalent to value being transferred to the holder of the Series D Preferred Stock, with such holder thereby realizing enhanced economic value compared to the holders of other ION securities that did not hold a beneficial conversion feature. This feature was calculated at its intrinsic value at the original commitment date, and the amount of the charge was limited to the amount of proceeds allocated to the convertible instruments (i.e. the Series D Preferred Stock).

#### ***Year Ended December 31, 2007 Compared to Year Ended December 31, 2006***

*Net Revenues.* Net revenues of \$713.1 million for the year ended December 31, 2007 increased \$209.5 million, compared to the corresponding period last year, principally due to increased activity and demand for seismic services. Land Imaging Systems’ net revenues increased by \$119.2 million, to \$325.0 million compared to \$205.8 million during the twelve months ended December 31, 2006. This increase was due to an increase in sales of our land acquisition systems, including the 2007 sale of 14 land acquisition systems to ONGC, the recognition of our FireFly sale in the first quarter of 2007 and significantly increased vibrator truck sales compared to 2006. Marine Imaging Systems’ net revenues increased \$49.8 million to \$177.7 million, compared to \$127.9 million during the year ended December 31, 2006 principally due to stronger sales of our marine positioning

products, including the first sale of our DigiFIN advanced streamer command and control system, greater demand for our DigiCOURSE positioning and source products and an increase in VectorSeis Ocean (VSO) and source product sales. We delivered to RXT the fourth VSO system in December 2007 and expect to begin delivering the next VSO system in 2008. Our Data Management Solutions' net revenues increased \$14.5 million, to \$37.7 million compared to \$23.2 million in 2006. This increase primarily reflects increased energy industry demand for marine seismic work and sales from our newly launched Orca towed streamer navigation and data management applications product line.

ION Solutions' (Seismic Imaging Solutions) net revenues increased \$26.0 million, to \$172.7 million compared to \$146.7 million in 2006. This increase was due to larger demand related to higher proprietary processing revenues, pre-funded multi-client seismic surveys primarily off the coasts of Alaska, Africa and Indonesia and sales of off-the-shelf seismic data sales. Sales showed significant improvement compared to 2006, which included a one-time, \$11.2 million multi-client seismic library sale that was not duplicated in 2007.

*Gross Profit and Gross Profit Percentage.* Gross profit of \$206.6 million for the year ended December 31, 2007 increased \$47.3 million compared to the prior year. Gross profit percentage for the twelve months ended December 31, 2007 was 29% compared to 32% in the prior year. The 3% reduction in our gross margin percentage was primarily due to the recognition of the sale in 2007 of our first FireFly system (which, as a newly-developed system, had relatively high built-in costs of sale) and the mix of business, including an increase in sales of lower margin Vibroseis trucks by Land Imaging Systems, the impact of lower than average margins related to the ONGC sale and the sale of a low-margin pre-funded multi-client survey by ION Solutions. This decrease was partially offset by stronger margins from our Marine Imaging Systems due to increased sales of our source and seabed product lines. We also had an increase in higher margin sales from our Data Management Solutions segment due to product mix, including significantly increased sales of our Orca software.

*Research, Development and Engineering.* Research, development and engineering expense was \$50.0 million, or 7.0% of net revenues, for the year ended December 31, 2007, an increase of \$12.1 million compared to \$37.9 million, or 7.5% of net revenues, for the corresponding period last year. We expect to continue to incur significant research, development and engineering expenses in 2008 at or above these levels on an absolute dollar basis, as we continue to invest heavily in our next generation of seismic acquisition products and services, including products such as FireFly and DigiSTREAMER. For a discussion of our product research and development programs in 2008, see Item 1. "Business — Product Research and Development."

*Marketing and Sales.* Marketing and sales expense of \$43.9 million, or 6.2% of net revenues, for the year ended December 31, 2007 increased \$3.2 million compared to \$40.7 million, or 8.1% of net revenues, for the corresponding period last year. The reduction in marketing and sales expense as a percentage of net revenues reflects our focus on leveraging our marketing and sales costs with our sales growth. The increase in our sales and marketing expenditures reflects the hiring of additional sales personnel as well as increased travel associated with our global marketing efforts. This increase was partially offset by a decrease in our sales commissions, which reflects more effective utilization of our internal sales force. We intend to continue investing significant sums in our marketing efforts as we seek to penetrate markets with our new products.

*General and Administrative.* General and administrative expense of \$49.1 million for the year ended December 31, 2007 increased \$8.3 million compared to \$40.8 million in the prior year. General and administrative expenses as a percentage of net revenues for the years ended December 31, 2007 and 2006 were 6.9% and 8.1%, respectively. The increase in expenditures was primarily due to higher payroll costs associated with an increase in management and corporate personnel and an increase in travel associated with our global solutions corporate strategy. This increase was partially offset by a decrease in professional accounting and consulting fees compared to 2006.

*Loss on Debt Conversion.* In November 2007, \$52.8 million of our \$60.0 million 5.5% convertible senior notes indebtedness was converted into approximately 12.2 million shares of our common stock, in accordance with the terms of the notes. The conversion arrangement included a one-time charge of \$2.9 million that represented the present value of future interest payments through the converted notes' original date of maturity of December 15, 2008.

*Income Tax Expense.* Income tax expense for the year ended December 31, 2007 was \$12.8 million compared to income tax expense of \$5.1 million for the twelve months ended December 31, 2006. The increase in tax expense during 2007 primarily relates to improved results of our foreign operations, U.S. alternative minimum taxes and deferred taxes on the utilization of acquired net operating losses. We continue to maintain a valuation allowance for substantially all of our net deferred tax assets. The Company's effective tax rate for the year ended December 31, 2007 was 23.1% as compared to 15.0% for the similar period during 2006. The increased effective tax rate for 2007 relates to improved results of operations of our foreign divisions and

deferred tax expense related to the utilization of acquired net operating losses of \$3.6 million. The 2006 and 2007 effective tax rates were lower than the statutory rate due to the utilization of previously reserved U.S. deferred tax assets.

*Preferred Stock Dividends and Accretion.* Preferred stock dividends and accretion of \$2.4 million for the year ended December 31, 2007 relate to our Series D-1 Preferred Stock that we issued in 2005 and the Series D-2 Preferred Stock that we issued in December 2007. Dividends are paid at a rate equal to the greater of (i) five percent per annum or (ii) the three month LIBOR rate on the last day of the immediately preceding calendar quarter plus two and one-half percent per annum. All dividends paid on the Series D-1 and Series D-2 Preferred Stock have been paid in cash. The preferred stock dividend rate was 7.73% at December 31, 2007.

## **Liquidity and Capital Resources**

### *Sources of Capital*

Our cash requirements include our working capital requirements, debt service payments, dividend payments on our preferred stock, acquisitions and capital expenditures. In recent years, our primary sources of funds have been cash flow from operations, existing cash balances, equity issuances and our revolving credit facility (see “ — *Revolving Line of Credit and Term Facilities*” below).

During the latter half of 2008, we amended our credit facilities and incurred additional debt in connection with the ARAM acquisition. As of December 31, 2008, these credit facilities and debt consisted of:

- Our Amended Credit Facility, comprised of:
  - An amended revolving line of credit sub-facility; and
  - A \$125.0 million term loan;
- A bridge loan agreement with Jefferies Finance LLC (“Jefferies”); and
- The Amended and Restated Subordinated Promissory Note.

In addition, as of December 31, 2008, the indebtedness under the Subordinated Seller Note was shown on our consolidated balance sheet although our liabilities under this note had been legally extinguished. See “ — *Subordinated Seller Note*” below.

*Revolving Line of Credit and Term Facilities.* In July 2008, we, ION Sàrl, and certain of our domestic and other foreign subsidiaries (as guarantors) entered into a \$100 million amended and restated revolving credit facility under the terms of the Credit Agreement. This amended and restated revolving credit facility provided us with additional flexibility for our international capital needs by not only permitting borrowings by ION Sàrl under the facility but also providing us and ION Sàrl the ability to borrow in alternative currencies.

Under the Credit Agreement, \$60.0 million (or its equivalent in foreign currencies) is available for borrowings by ION Sàrl and \$75.0 million is available for borrowings by us; however, the total availability under the revolving credit facility is \$100.0 million and total outstanding revolving credit borrowings under this facility may not exceed this amount. The Credit Agreement includes provisions for an accordion feature, under which the total lenders’ commitments under the Credit Agreement could be increased by up to \$50.0 million, subject to the satisfaction of certain conditions.

On September 17, 2008, we, ION Sàrl and certain of our domestic and other foreign subsidiary guarantors amended the terms of the Credit Agreement by entering into a first amendment to the Credit Agreement, which added a new \$125.0 million term loan sub-facility. We borrowed \$125.0 million in term loan indebtedness and \$72.0 million under the revolving credit sub-facility, to fund a portion of the cash consideration for the ARAM acquisition. See — “*ARAM Acquisition*” above.

In December 2008, we, ION Sàrl and certain of our domestic and other foreign subsidiary guarantors entered into two additional amendments to the Credit Agreement that further modified its terms. The amendments were entered into principally to permit the refinancing of certain indebtedness and related financial arrangements that we had entered into in September 2008 in connection with our acquisition of ARAM. The amendments were also entered into to permit us to implement a stockholder

rights plan without violating the terms of the Amended Credit Facility, and to permit us to obtain certain sale/leaseback financing in order to finance leases of land seismic data acquisition systems and related equipment to our customers.

The interest rate on borrowings under our Amended Credit Facility is, at our option, (i) an alternate base rate (either the prime rate of HSBC Bank USA, N.A., or a federal funds effective rate plus 0.50%, plus an applicable interest margin) or (ii) for eurodollar borrowings and borrowings in euros, pounds sterling or Canadian dollars, a LIBOR-based rate, plus an applicable interest margin. The amount of the applicable interest margin is determined by reference to a leverage ratio of total funded debt to consolidated EBITDA for the four most recent trailing fiscal quarters. The interest rate margins range from 2.875% to 4.0% for alternate base rate borrowings, and from 3.875% to 5.0% for eurodollar borrowings. As of December 31, 2008, \$120.3 million in term loan indebtedness under the Amended Credit Facility accrued interest using the LIBOR-based interest rate of 6.02% per annum, while \$66.0 million in total revolving credit indebtedness under the Amended Credit Facility accrued interest using the alternate-based interest rate of 6.88% per annum. The average effective interest rate for the quarter ended December 31, 2008 under the LIBOR-based and prime-based rate was 5.7%.

The Credit Agreement contains covenants that restrict us, subject to certain exceptions, from:

- Incurring additional indebtedness (including capital lease obligations), granting or incurring additional liens on our properties, pledging shares of our subsidiaries, entering into certain merger or other similar transactions, entering into transactions with affiliates, making certain sales or other dispositions of assets, making certain investments, acquiring other businesses and entering into certain sale-leaseback transactions with respect to certain of our properties;
- Paying cash dividends on our common stock and repurchasing and acquiring shares of our common stock unless (i) there is no event of default under the Amended Credit Facility and (ii) the amount of cash used for cash dividends, repurchases and acquisitions does not, in the aggregate, exceed an amount equal to the excess of 30% of ION's domestic consolidated net income for our most recently completed fiscal year over \$15.0 million.

The Amended Credit Facility requires us to be in compliance with certain financial covenants, including requirements for us and our domestic subsidiaries to:

- maintain a minimum fixed charge coverage ratio in an amount equal to 1.50 to 1 for each fiscal quarter beginning in 2009;
- not exceed a maximum leverage ratio of 2.25 to 1 for each fiscal quarter beginning in 2009; and
- maintain a minimum tangible net worth of at least 80% of our tangible net worth as of September 18, 2008 (the date that we completed our acquisition of ARAM), plus 50% of our consolidated net income for each quarter thereafter, and 80% of the proceeds from any mandatorily convertible notes and preferred and common stock issuances for each quarter thereafter.

The \$125.0 million original principal amount of term loan indebtedness borrowed under the Amended Credit Facility is subject to scheduled quarterly amortization payments of \$4.7 million per quarter until December 31, 2010. On that date, the quarterly principal amortization increases to \$6.3 million per quarter until December 31, 2012, when the quarterly principal amortization amount increases to \$9.4 million for each quarter until maturity on September 17, 2013. The term loan indebtedness matures on September 17, 2013, but the administrative agent under the Amended Credit Facility may accelerate the maturity date to a date that is six months prior to the maturity date of certain additional debt financing that we may incur to refinance certain indebtedness incurred in connection with the ARAM acquisition, by giving us written notice of such acceleration between September 17, 2012 and October 17, 2012.

The Amended Credit Facility contains customary event of default provisions (including an event of default upon any "change of control" event affecting us), the occurrence of which could lead to an acceleration of ION's obligations under the Amended Credit Facility.

Revolving credit borrowings under the Amended Credit Facility are available to fund our working capital needs, to finance acquisitions, investments and share repurchases and for general corporate purposes. In addition, the Credit Facility includes a \$35.0 million sub-limit for the issuance of documentary and stand-by letters of credit, of which \$1.2 million was outstanding at December 31, 2008. Borrowings under the Amended Credit Facility may be prepaid without penalty. As of December 31, 2008, \$120.3 million in term loan indebtedness and \$66.0 million in revolving credit indebtedness were outstanding under the Credit Facility. As of that date, including the \$1.2 million of outstanding stand-by letters of credit, we had available \$32.0 million of

additional revolving credit borrowing capacity under our Amended Credit Facility. However, as of February 23, 2009, we had available only \$0.8 million of additional revolving credit borrowing capacity, which can be used only to fund additional letters of credit under the Amended Credit Facility. Our cash and cash equivalents as of February 23, 2009 were approximately \$48.3 million compared to \$35.2 million at December 31, 2008.

Borrowings under the revolving credit sub-facility are not subject to a borrowing base. The Amended Credit Facility includes an accordion feature under which the total commitments under the Amended Credit Agreement could be increased by up to \$50.0 million, subject to the satisfaction of certain conditions.

Our obligations under the Amended Credit Facility are guaranteed by certain of our domestic subsidiaries that are parties to the Credit Agreement, and the obligations of ION Sàrl under the Amended Credit Facility are guaranteed by us and by certain of our domestic and foreign subsidiaries that are parties to the Credit Agreement. Our obligations and the guarantees of our domestic guarantors are secured by security interests in 100% of the stock of all of the domestic guarantors and 65% of the stock of certain first-tier foreign subsidiaries, and by substantially all of our other assets and those of our domestic guarantors. The obligations of ION Sàrl and the foreign guarantors are secured by security interests in 100% of the stock of the foreign guarantors and the domestic guarantors, and substantially all of our assets and the other assets of the foreign guarantors and the domestic guarantors.

*Bridge Loan.* On December 30, 2008, we and certain of our domestic subsidiaries (as guarantors) entered into a Bridge Loan Agreement with Jefferies as administrative agent, sole bookrunner, sole lead arranger and lender. Under the Bridge Loan Agreement, we borrowed \$40.8 million (the "Bridge Loan") to refinance outstanding short-term indebtedness (that had been scheduled to mature on December 31, 2008), which we had borrowed from Jefferies Finance CP Funding LLC, an affiliate of Jefferies, under the Senior Increasing Rate Note in connection with the completion of the ARAM acquisition in September 2008.

The maturity date of the Bridge Loan is January 31, 2010. The Bridge Loan Agreement provides that any lender can assign its interests under the Bridge Loan or sell participations in the Bridge Loan, provided that certain conditions are first met.

Under the Bridge Loan Agreement, we paid Jefferies as administrative agent a non-refundable upfront fee of \$2.041 million, representing 5.0% of the principal amount of the Bridge Loan. In addition, we agreed in the Bridge Loan Agreement to pay the lenders thereunder (i) on June 30, 2009, a non-refundable initial duration fee in an amount equal to 3.0% of the total principal amount of the Bridge Loan outstanding (if any) on such date, and (ii) on September 30, 2009, a non-refundable additional duration fee in an amount equal to 2.0% of the total principal amount of the Bridge Loan outstanding (if any) on such date. Interest on the Bridge Loan is payable monthly on the last day of each month that the Bridge Loan remains outstanding, and at the maturity date of the Bridge Loan. The Bridge Loan bears interest at a rate equal to the sum of (i) the one-month LIBO rate plus (ii) 13.25% per annum; the LIBO rate is defined as the London interbank rate appearing on the Reuters BBA Libor Rates Page 3750 or 1.75%, whichever is greater. If the LIBO rate cannot then be determined or otherwise is unavailable, the interest rate will be equal to the sum of (x) the "alternate base rate" plus (y) 12.25%; the alternate base rate will be equal to the greatest of the prime rate of (a) HSBC Bank USA, N.A., (b) a federal funds rate plus ½ of 1% and (c) 2.75%. Unless the Bridge Loan is in default, the interest rate on the Bridge Loan shall neither be less than 15.0% nor greater than 17.0% per annum. If the Bridge Loan is in default, default interest will accrue (and be payable on demand) at a rate of 4.0% above the then-current interest rate in effect under the Bridge Loan.

The Bridge Loan can be prepaid at any time without penalty or premium upon three business days' written notice.

The Bridge Loan Agreement contains provisions that will require us, upon the occurrence of a "Change of Control" (as that term is defined in the Credit Agreement), to offer to the holder(s) of the Bridge Loan to repay the Bridge Loan at a price equal to 101% of the principal amount thereof, plus all accrued fees and all accrued and unpaid interest to the date of repayment.

Our representations and warranties, affirmative covenants, negative covenants and financial covenants and the events of default contained in the Bridge Loan Agreement are substantially the same as those contained in the Credit Agreement.

In connection with the Bridge Loan Agreement, we and Jefferies also entered into an agreement to terminate and release the respective obligations of the parties and their respective affiliates under the Commitment Letter and related fee and engagement letter agreements we entered into with Jefferies and its affiliates in September 2008.

*Amended and Restated Subordinated Seller Note.* As part of the purchase price for the ARAM acquisition, ION Sub issued the Senior Seller Note to 1236929 Alberta Ltd., one of the selling shareholders of ARAM. The outstanding principal and accrued interest under the Senior Seller Note was to be due and payable upon the earlier to occur of (x) September 18, 2009 and (y) the

date that a cash amount equal to \$35.0 million, plus a specified amount of interest was deposited into an escrow account established for the purpose of funding certain post-closing purchase price adjustments and indemnities related to the acquisition.

On December 30, 2008, in connection with the other refinancing transactions described above, the terms of the Senior Seller Note were amended and restated and subordination provisions were added, by ION Sub's issuing an Amended and Restated Subordinated Promissory Note dated December 30, 2008 ("the Amended and Restated Subordinated Note") to the same selling shareholder of ARAM (which had changed its corporate name to Maison Mazel Ltd.). The principal amount of the Amended and Restated Subordinated Note remained at \$35.0 million and the maturity date was extended from September 17, 2009 to September 17, 2013. We also entered into an amended and restated guaranty dated December 30, 2008, whereby we guaranteed on a subordinated basis ION Sub's repayment obligations under the Amended and Restated Subordinated Note. Interest on the outstanding principal amount under the Amended and Restated Subordinated Note accrues at the rate of fifteen percent (15%) per annum, and is payable quarterly, commencing March 31, 2009.

The Amended and Restated Subordinated Note contains covenants that restrict us and our subsidiaries from incurring or assuming certain additional indebtedness. The terms of the Amended and Restated Subordinated Note provide that the particular covenant contained in the Credit Agreement (or in any successor agreement or instrument) that restricts our ability to incur additional indebtedness will be incorporated into the Amended and Restated Subordinated Note. However, Maison Mazel or any other holder of the Amended and Restated Subordinated Note will not have a separate right to consent to or approve any amendment or waiver of the covenant as contained in the Amended Credit Facility.

In addition, ION Sub agreed that if it incurs indebtedness under any financing that:

- qualifies as "Long Term Junior Financing" (as defined in the Amended Credit Agreement),
- results from a refinancing or replacement of the Amended Credit Facility such that the aggregate principal indebtedness (including revolving commitments) thereunder would be in excess of \$275.0 million, or
- qualifies as unsecured indebtedness for borrowed money that is evidenced by notes or debentures, has a maturity date of at least five years after the date of its issuance and results in total gross cash proceeds to us of not less than \$45.0 million (\$40.0 million after the Bridge Loan has been paid in full),

then ION Sub will repay in full from the total proceeds from such financing the then-outstanding principal of and interest on the Amended and Restated Subordinated Note. However, in those circumstances, any indebtedness outstanding under the Bridge Loan must also be paid in full, either prior to or contemporaneously with the repayment of the Amended and Restated Subordinated Note.

The indebtedness under the Amended and Restated Subordinated Note is subordinated to the prior payment in full of our "Senior Obligations," which are defined in the Amended and Restated Subordinated Note as the principal, premium (if any), interest and other amounts that become due in connection with:

- our obligations under the Amended Credit Facility,
- our obligations under the Bridge Loan Agreement,
- our liabilities with respect to capital leases and obligations under our facility sale-leaseback facility that qualify as a "Sale/Leaseback Agreement" (as that term is defined in the Credit Agreement),
- guarantees of the indebtedness described above, and
- debentures, notes or other evidences of indebtedness issued in exchange for, or in the refinancing of, the Senior Obligations described above, or any indebtedness arising from the payment and satisfaction of any Senior Obligations by a guarantor.

*Subordinated Seller Note.* As part of the purchase price for the ARAM acquisition, ION Sub issued to one of the Sellers the \$10.0 million original principal amount unsecured Subordinated Seller Note. In connection with the refinancing transactions in December 2008, our obligations and those of ION Sub under the Subordinated Seller Note and related guaranty were terminated and extinguished in exchange for our assignment to the Seller of our rights to the Refund Claim. However, based upon relevant accounting literature, while legally extinguished, the liability could not be extinguished on the balance sheet as of December 31,



2008 and is subsequently included as short-term debt. The income tax refund is also reflected on our balance sheet (netted against our income taxes payable) at December 31, 2008. As of February 20, 2009, approximately \$7.0 million of the Refund Claim had been received and used to repay the Subordinated Seller Note. See — “*ARAM Acquisition*” above.

*Cumulative Convertible Preferred Stock.* During 2005, we entered into the Fletcher Agreement and issued to Fletcher 30,000 shares of our 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 our 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 Preferred Stock for \$5.0 million (in December 2007) and the remaining 35,000 shares of Series D-3 Preferred Stock for \$35.0 million (in February 2008). Fletcher remains the sole holder of all of our outstanding shares of Series D Preferred Stock.

Until November 2008, all shares of Series D Preferred Stock had substantially similar terms, except for their conversion prices, which were as follows:

- The conversion price for the Series D-1 Preferred Stock was \$7.869 per share;
- The conversion price for the Series D-2 Preferred Stock was \$16.0429 per share; and
- The conversion price for the Series D-3 Preferred Stock was \$14.7981 per share.

The terms of the Series D Preferred Stock had provided that the shares could be redeemed for cash or in shares of common stock, calculated based upon the prevailing market price of our common stock at the time of redemption. Dividends on the shares of Series D Preferred Stock could be payable, at our election, in cash or in shares of our common stock. To date, all dividends paid on the Series D Preferred Stock have been paid in cash.

Under the Fletcher Agreement, if a 20-day volume-weighted average trading price per share of our common stock fell below the Minimum Price, we were required to deliver the Reset Notice to Fletcher and elect to either

- satisfy all future redemption obligations by distributing only cash, or a combination of cash and common stock, or
- reset the conversion prices of all of the outstanding shares of Series D Preferred Stock to the Minimum Price, in which event Fletcher would have no further rights to redeem its shares of Series D Preferred Stock.

In addition, the Fletcher Agreement provided that upon our delivery of the Reset Notice, we would thereafter be required to pay all future dividends on shares of Series D Preferred Stock in cash.

On November 28, 2008, the 20-day volume-weighted average trading price per share of our common stock on the New York Stock Exchange for the previous 20 trading days was calculated to be \$4.328, and we delivered the Reset Notice to Fletcher in accordance with the terms of the Fletcher Agreement. In the Reset Notice, we elected to reset the conversion prices for the Series D Preferred Stock to the Minimum Price (\$4.4517 per share), and Fletcher’s redemption rights 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 us 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. On November 28, 2008, Fletcher delivered a notice to us to increase the Maximum Number to 9,669,434 shares, effective February 1, 2009.

The new Maximum Number represents approximately 9.7% of our total outstanding shares of common stock as of February 12, 2009 (calculated in accordance with Rule 13d-3(d)(1) under the Securities Exchange Act of 1934). Prior to adjusting the conversion prices for the Series D Preferred Stock to the Minimum Price, the total outstanding shares of Series D Preferred Stock would have been convertible into 6,489,260 shares of common stock, or approximately 6.5% of our total outstanding shares of common stock as of February 12, 2009.

As a result of these elections and notices:

- Fletcher is no longer permitted to redeem its shares of Series D Preferred Stock,
- we are required to pay all future dividends on the Series D Preferred Stock in cash and may not pay such dividends in shares of our common stock, and
- the Maximum Number of shares of common stock into which the shares of Series D Preferred Stock may be converted is 9,669,434 shares.

The conversion prices and number of shares of common stock to be acquired upon conversion are also subject to customary anti-dilution adjustments. Converting the shares of Series D Preferred Stock at one time could result in significant dilution to our stockholders that could limit our ability to raise additional capital. See Item 1A. — “*Risk Factors*.”

*Meeting our Liquidity Requirements.* Based on our forecasts and our liquidity requirements for the near term future, we believe that the combination of our projected internally generated cash and our working capital (including our cash and cash equivalents on hand) will be sufficient to fund our operational needs and our liquidity requirements for at least the next twelve months. However, the present global credit crisis, market volatility, economic downturn and forecasted reduced demand for oil and natural gas all present special challenges for us regarding our ability to satisfy our liquidity needs, at least for the foreseeable future. See Item 1A — “*Risk Factors*” above in this Form 10-K. As of December 31, 2008, we had approximately \$154.1 million in contractual obligations to pay in 2009. See “— *Future Contractual Obligations*” below.

At December 31, 2008, we were in compliance with all of the financial covenants under our principal debt agreements. We believe that, based on our 2009 operating plan, we will remain in compliance with these financial covenants during 2009 and have sufficient liquidity to fund our operations throughout 2009. We also believe that we have the ability to make additional cost reductions in order to mitigate the impact that a decrease in revenues from our operating plan could have on our covenants compliance. However, even though not currently considered likely, there are certain scenarios and events beyond our control, such as further declines in E&P company and seismic contractor spending, significant write-downs of accounts receivable, changes in certain exchange rates and other factors, that could cause us to fall out of compliance with certain financial covenants contained in the Amended Credit Facility and the Bridge Loan Agreement. Our failure to comply with such covenants could result in an event of default that, if not cured or waived, could have a material adverse effect on our financial condition, results of operations, and debt service capabilities. If we were not able to satisfy all of these covenants, we would need to seek to amend, or seek one or more waivers of, those covenants under the Amended Credit Facility and the Bridge Loan Agreement. There can be no assurance that we would be able to obtain any such waivers or amendments, in which case we would likely seek to obtain new secured debt, unsecured debt or equity financing. However, there also can be no assurance that such debt or equity financing would be available on terms acceptable to us or at all. In the event that we would need to amend the Amended Credit Facility and the Bridge Loan Agreement, or obtain new financing, we would likely incur up front fees and higher interest costs, and other terms in the amendments would likely be significantly less favorable to us than those currently provided under the Amended Credit Facility and the Bridge Loan Agreement.

Although we are still evaluating the impact of the current credit crisis and decline in commodity prices on us, we expect that our capital expenditures in 2009 will be reduced from 2008 levels, other than our undertaking any opportunistic acquisitions or expansion projects. If there is a significant lessening in demand for our products and services as a result of any prolonged declines in the long-term expected price of oil and natural gas, we may see a further reduction in our own capital expenditures and lesser requirements for working capital, which could generate operating cash flows and liquidity compared to the prior period and offset reduced cash generated from operations (excluding working capital changes). We are currently projecting our capital expenditures for 2009 to be in the range of \$65 million to \$85 million. Of that amount, we are estimating that approximately \$60 million to \$75 million will be spent on investments in our multi-client data library, but are anticipating that most of these investments will be underwritten by our customers.

### ***Cash Flows from Operations***

We have historically financed our operations from internally generated cash and funds from equity and debt financings. Cash and cash equivalents were \$35.2 million at December 31, 2008, a decrease of \$1.2 million compared to December 31, 2007. Net cash provided by operating activities was \$111.7 million for the year ended December 31, 2008, compared to \$93.8 million for the year ended December 31, 2007. The increase in net cash provided in our operating activities was primarily due to increased accrued liabilities and accounts payable as well as decreased accounts receivable resulting from increased collections in 2008. This increase was partially offset by increased investment in our inventories. We have adjusted our manufacturing and purchasing

plans in order that we can focus on making sales from this inventory in order to reduce our current levels of inventory. During 2008, we wrote down the carrying values of certain of our mature analog land systems and related equipment inventory, resulting in a \$10.1 million charge.

### ***Cash Flows from Investing Activities***

Net cash flow used in investing activities was \$354.6 million for the year ended December 31, 2008, compared to \$76.0 million for the year ended December 31, 2007. The principal uses of our cash for investing activities during the year ended December 31, 2008 were \$242.8 million expended to acquire ARAM in September 2008, \$17.5 million of equipment and rental equipment purchases and a \$110.4 million investment in our multi-client data library. This was partially offset by \$10.7 million of cash we acquired in the ARAM acquisition and proceeds from the sale of assets and rental assets of \$5.4 million.

### ***Cash Flows from Financing Activities***

Net cash flow provided by financing activities was \$244.3 million for the year ended December 31, 2008, compared to \$0.8 million for the year ended December 31, 2007. The net cash flow provided by financing activities during 2008 was primarily related to \$160.3 million of net proceeds from acquisition debt we borrowed to purchase ARAM, \$66.0 million of net borrowings on our revolving credit facility, \$35.0 million in proceeds from the issuance and sale of our Series D-3 Preferred Stock in February 2008 and \$6.3 million in proceeds related to the exercise of stock options and stock purchases by our employees under our employee plans. This cash inflow was partially offset by scheduled principal payments of \$18.1 million on our notes payable and capital lease obligations and \$3.9 million in cash dividends paid on our outstanding Series D-1, Series D-2 and Series D-3 Preferred Stock.

### ***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 in the fourth quarter of our fiscal year.

### ***Future Contractual Obligations***

The following table sets forth estimates of future payments of our consolidated contractual obligations, as of December 31, 2008 (in thousands):

<b><u>Contractual Obligations</u></b>	<b><u>Total</u></b>	<b><u>Less Than 1 Year</u></b>	<b><u>1-3 Years</u></b>	<b><u>3-5 Years</u></b>	<b><u>More Than 5 Years</u></b>
Notes payable and long-term debt .....	\$ 278,909	\$ 31,353	\$ 87,260	\$ 158,796	\$ 1,500
Interest on notes payable and long-term debt obligations.....	59,040	21,222	23,047	14,628	143
Equipment capital lease obligations.....	13,000	7,046	5,954	—	—
Operating leases.....	50,269	11,487	19,723	9,678	9,381
Product warranty.....	10,526	10,526	—	—	—
Purchase obligations .....	72,607	72,450	157	—	—
Total.....	<u>\$ 484,351</u>	<u>\$ 154,084</u>	<u>\$ 136,141</u>	<u>\$ 183,102</u>	<u>\$ 11,024</u>

The long-term debt and lease obligations at December 31, 2008 included \$66.0 million of revolving credit indebtedness and \$120.3 million under our five-year term loan, in each case incurred under our Amended Credit Facility and maturing in 2013 and \$40.8 million under our Bridge Loan Agreement due January 2010. The remaining amount of these obligations consists of \$35.0 million under our Amended and Restated Subordinated Note, \$10.0 million under our Subordinated Seller Note, \$4.6 million indebtedness related to our sale-leaseback arrangement and \$2.2 million of short-term notes payable. The \$13.0 million of capital lease obligations relates to ARAM and GXT's financing of computer equipment purchases. Because we may repay our outstanding indebtedness under the Amended Credit Facility at any time, the interest expense is not included in the above table. However, if the outstanding principal of \$66.0 million as of December 31, 2008 was not repaid in 2009, the interest expense would be \$4.5 million using the interest rate as of December 31, 2008. For further discussion of our notes payable, long-term debt and capital lease obligations, see Note 11 – "Notes Payable, Long-term Debt and Lease Obligations" of *Notes to Consolidated Financial Statements*.

The operating lease commitments at December 31, 2008 relate to our leases for certain equipment, offices, processing centers, and warehouse space under non-cancelable operating leases.

The liability for product warranties at December 31, 2008 relate to the estimated future warranty expenditures associated with our products. Our warranty periods generally range from 30 days to three years from the date of original purchase, depending on the product. We record an accrual for product warranties and other contingencies at the time of sale, which is when the estimated future expenditures associated with those contingencies become probable and the amounts can be reasonably estimated. We generally receive warranty support from our suppliers regarding equipment they manufactured. Our purchase obligations primarily relate to our committed inventory purchase orders for which deliveries are scheduled to be made in 2008.

The original terms regarding our Series D Preferred Stock had provided that the shares of Series D Preferred Stock could be redeemed in cash or in stock or converted into stock, and that dividends could be paid in cash or in stock. As a result of our election to reset the conversion prices on our Series D Preferred Stock in November 2008, these shares of preferred stock are no longer redeemable at the option of the holder, but remain convertible into shares of our common stock. Therefore, the preferred stock was excluded from the above table. However, dividends are payable quarterly and must be paid in cash. The dividend rate was 6.55% at December 31, 2008. See “— *Liquidity and Capital Resources*” above.

### **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 and Product Warranty* — We derive revenue from the sale and rental of (i) acquisition systems and other seismic equipment within our Land Imaging Systems and Marine Imaging Systems segments; (ii) imaging services, multi-client surveys and licenses of “off-the-shelf” data libraries within our ION Solutions segment; and (iii) navigation, survey and quality control software systems within our Data Management Solutions segment.

For the sales of acquisition systems and other seismic equipment, we follow the requirements of Staff Accounting Bulletin No. 104 “*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 limited case where a substantive customer-specified acceptance clause exists in the contract, the later of delivery or when the customer-specified acceptance is obtained.

Our Land Imaging Systems segment receives rental income from the rental of seismic equipment. The rental is in the form of operating leases as the lease terms range from a couple of days to several months. Rental revenue is recognized on a straight line basis over the term of the operating lease.

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.

Revenues from multi-client surveys are recognized 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 survey data is considered “off-the-shelf” and licenses to the survey data are sold to customers on a non-exclusive basis. The license of a completed multi-client survey is represented by the license of one standard set of data. Revenues on licenses of completed multi-client data surveys are recognized when a signed final master geophysical data license agreement and accompanying supplemental license agreement are returned by the customer, the purchase price for the license is fixed or determinable, delivery or performance has occurred, and 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.

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 Emerging Issues Task Force (EITF) 00-21 “*Accounting for Multiple-Element Revenue Arrangement*,” and allocate revenue to each element based upon its vendor-specific objective evidence of fair value, so long as each such element meets the criteria for treatment as a separate unit of accounting. We limit the amount of revenue recognized for delivered elements to the amount that is not contingent on the future delivery of products or services. We generally do not grant return or refund privileges to our customers. When undelivered elements, such as training courses and engineering services, are inconsequential or perfunctory and not essential to the functionality of the delivered elements, we recognize revenue on the total contract and make a provision for the costs of the incomplete elements.

For the sales of navigation, survey and quality control software systems, we follow the requirements of SOP 97-2 “*Software Revenue Recognition*,” because in those systems the software is more than incidental to the arrangement as a whole. Following the requirements of EITF 03-05 “*Applicability of AICPA Statement of Position 97-2 to Non-Software Deliverables in an Arrangement Containing More-Than-Incidental Software*,” we consider the hardware within these systems to be a software-related item because the software is essential to the hardware’s functionality. As a result, we recognize revenue from sales of navigation, survey and quality control 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 and software-related hardware is delivered to the customer and risk of ownership has passed to the customer, or, in the limited case where a substantive customer-specified acceptance clause exists in the contract, 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 of fair value of the element or, if vendor-specific objective evidence is not available for the delivered element, we apply the residual method.

Even though a majority of our software arrangements are licensed on a perpetual basis, we do offer certain time-based software licenses. For these time-based licenses, we recognize revenue ratably over the contract term, which is generally two to three years.

We generally warrant that our manufactured equipment will be free from defects in workmanship, material and parts. Warranty periods generally range from 30 days to three years from the date of original purchase, depending on the product. We provide for estimated warranty as a charge to costs of sales at the time of sale.

- *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 the years ended December 31, 2008, 2007 and 2006, we capitalized, as part of our multi-client data library, \$5.4 million, \$4.3 million, and \$3.1 million, respectively, of direct internal processing costs.

Our method of amortizing the costs of a multi-client data library available for commercial sale is the greater of (i) the percentage of actual revenue to the total estimated revenue multiplied by the total cost of the project (the sales forecast method) or (ii) the straight-line basis over a four-year period. The sales forecast method is our primary method of calculating amortization. The total amortization period of four years represents the minimum period over which benefits from these surveys are expected to be derived. We have determined the amortization period of 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 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 2008, an increase in 10% in the sales forecasts of all surveys would have decreased our amortization expense by approximately \$9.6 million.

We estimate the ultimate revenue expected to be derived from a particular seismic data survey over its estimated useful economic life to determine the costs to amortize, if greater than straight-line amortization. That estimate is made by us at the

project's initiation. For a completed multi-client survey, we review the estimate quarterly. If during any such review, we determine that the ultimate revenue for a survey is expected to be 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 Statement of Financial Accounting Standards (SFAS) 144 "Accounting for the Impairment and Disposal of Long-Lived Assets," record an impairment charge with respect to such data. There were no significant impairment charges during 2008 and 2007.

- *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 and the timing of market acceptance of our new products. Should these assumptions and judgments not be realized for reasons such as delayed market acceptance of our new products, our valuation allowance 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 valuation reserve for inventory at December 31, 2008 was \$24.1 million compared to \$11.5 million at December 31, 2007. The increase in our reserves for excess and obsolete inventories primarily relates to our analog land acquisition systems. As a result of the planned integration of ARAM into our Land Imaging Systems segment, we evaluated and determined that market values of certain of our mature analog products were lower than their then-current book values. As a result, we wrote down the inventory to its expected market value, which resulted in a charge to cost of products of approximately \$10.1 million.
- *Goodwill and Other Intangible Assets* — For purposes of performing the impairment test for goodwill as required by SFAS 142, we established the following reporting units: Land Imaging Systems, ARAM Systems, Sensor Geophone, Marine Imaging Systems, Data Management Solutions, and ION Solutions. 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.

SFAS 142 requires us to compare the fair value of our reporting units to their carrying amount on an annual basis to determine if there is potential goodwill impairment. If the fair value of the reporting unit is less than its carrying value, an impairment loss is recorded to the extent that the fair value of the goodwill within the reporting units is less than its carrying value.

We completed our annual goodwill impairment testing as of December 31, 2008 and determined that all of the goodwill within our Land Imaging Systems, ARAM Systems and ION Solutions reporting units were impaired. As a result, we recorded a goodwill impairment charge of \$242.2 million. The decrease in these reporting units' fair value was primarily driven by the overall economic and financial crisis and the decrease in the current demand for our land analog acquisition products, especially within North America and Russia. In making this assessment 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.

Our remaining goodwill of \$49.8 million relates to our Marine Imaging Systems and Data Management Solutions reporting units. Our annual impairment test indicated that the fair value of these two reporting units significantly exceeded their carrying values. 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.

Our intangible assets other than goodwill relate to proprietary technology, patents, customer relationships, trade names and non-compete agreements that are amortized over the estimated periods of benefit (ranging from 4 to 20 years). Following the guidance of SFAS 144, we review 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. For the year ended December 31, 2008, we determined that certain of the intangible assets (customer relationships, trade names and non-compete agreements) associated with our ARAM acquisition were impaired and recorded an impairment charge of \$10.1 million.

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.

- *Accounts and Notes Receivable Collectibility* — We consider current information and circumstances regarding our customers' ability to repay their obligations, such as the length of time the receivable balance is outstanding, the customers' credit worthiness and historical experience, and consider an account or note impaired when it is probable that we will be unable to

collect all amounts due. When we consider an account or note as impaired, we measure the amount of the impairment based on the present value of expected future cash flows or the fair value of collateral. We include impairment losses (recoveries) in our allowance for doubtful accounts and notes through an increase (decrease) in bad debt expense.

We record interest income on investments in notes receivable on the accrual basis of accounting. We do not accrue interest on impaired loans where collection of interest according to the contractual terms is considered doubtful. Among the factors we consider in making an evaluation of the collectibility of interest are: (i) the status of the loan; (ii) the fair value of the underlying collateral; (iii) the financial condition of the borrower; and (iv) anticipated future events.

- *Stock-Based Compensation* — We account for stock based compensation under the recognition provisions of SFAS 123R “Share-Based Payment.” 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 2008, 2007 and 2006, we recognized \$8.3 million, \$6.9 million and \$6.1 million, respectively, of stock-based compensation expense related to our employees’ outstanding stock-based awards. The total expense in 2008 was comprised of \$1.2 million reflected in cost of sales, \$0.9 million in research and development expense, \$1.9 million in marketing and sales expense, and \$4.3 million in general and administrative expense. In addition to the share-based compensation expense related to the Company’s plans, we recorded \$0.2 million of share-based compensation expense in 2008 related to employee stock appreciation rights. Pursuant to SFAS 123R, the stock appreciation rights are considered liability awards and, as such, these amounts are accrued in the liability section of the balance sheet.

## Recent Accounting Pronouncements

In October 2008, the Financial Accounting Standards Board (FASB) issued Staff Position (FSP) FSP FAS No. 157-3, *Determining the Fair Value of a Financial Asset When the Market for That Asset Is Not Active*” (FSP 157-3). FSP 157-3 was effective on issuance and provided further guidance and clarity to SFAS 157 as it specifically relates to assets with inactive markets. The literature also amends some examples in SFAS 157 to better illustrate the determination of fair value in these assets. The adoption of FSP 157-3 did not have a material impact on our financial position, results of operations or cash flows.

In September 2008, the FASB issued EITF No. 07-5, *“Determining Whether an Instrument (or Embedded Feature) is Indexed to a Entity’s Own Stock”* (EITF 07-5). EITF 07-5 re-evaluates the scope exceptions in SFAS 133 for purposes of determining if an instrument or embedded feature is considered indexed to its own stock and thus qualifies for a scope exception. The provisions for EITF 07-5 are effective for fiscal years beginning after December 15, 2008 with earlier adoption prohibited. We do not anticipate the adoption of EITF 07-5 will have a material impact to our financial position, results of operation or cash flows.

In September 2008, the FASB issued Staff Position (FSP) EITF 03-6-1, *“Determining Whether Instruments Granted in Share-Based Payment Transactions Are Participating Securities”* (FSP EITF 03-6-1), which is effective for fiscal years beginning after December 15, 2008. This FSP would require unvested share-based payment awards containing non-forfeitable rights to dividends or dividend equivalents (whether paid or unpaid) to be included in the computation of basic earnings per share according to the two-class method. We have determined that the adoption of FSP EITF 03-6-1 will not have a material impact on our earnings per share computation.

In March 2008, the FASB issued SFAS No. 161, *“Disclosures about Derivative Instruments and Hedging Activities,”* (SFAS 161). SFAS 161 provides more guidance on disclosure criteria and requires more enhanced disclosures about a company’s derivative and hedging activities. The provisions for SFAS 161 are effective for fiscal years beginning after November 15, 2008 with earlier adoption allowed. We will adopt SFAS 161 upon its effective date. We do not anticipate the adoption of SFAS 161 will have a material impact on our financial position, results of operations or cash flows.

In December 2007, the FASB issued SFAS No. 141(R), *“Business Combinations”* (SFAS 141(R)). The new standard will significantly change the financial accounting and reporting of business combination transactions in the consolidated financial statements. It will require an acquirer to recognize, at the acquisition date, the assets acquired, the liabilities assumed, and any non-controlling interest in the acquiree at their full fair values as of that date. In a business combination achieved in stages (step acquisitions), the acquirer will be required to remeasure its previously held equity interest in the acquiree at its acquisition-date fair value and recognize the resulting gain or loss in earnings. The acquisition-related transaction and restructuring costs will no longer be included as part of the capitalized cost of the acquired entity but will be required to be accounted for separately in

accordance with applicable GAAP in the U.S. SFAS 141(R) applies prospectively to business combinations for which the acquisition date is on or after January 1, 2009.

In February 2007, the FASB issued SFAS No. 159, "*The Fair Value Option for Financial Assets and Financial Liabilities*" (SFAS 159). SFAS 159 allows companies the option to report certain financial assets and liabilities at fair value, establishes presentation and disclosure requirements and requires additional disclosure surrounding the valuation of the financial assets and liabilities presented at fair value on the balance sheet. The provisions of SFAS 159 became effective for fiscal years beginning after November 15, 2007. We did not elect the fair value option for any of our financial assets or liabilities, and therefore, the adoption of SFAS 159 had no impact on our consolidated financial position, results of operations or cash flows.

### **Credit and Sales Risks**

No single customer represented 10% or more of our consolidated net revenues for the years ended December 31, 2008, 2007 and 2006; however, our top five customers in total represented approximately 30%, 31% and 29%, respectively of our consolidated net revenues. The loss of any significant customers or deterioration in our relationship with either customer could have a material adverse effect on our results of operations and financial condition.

For the twelve months ended December 31, 2008, we recognized \$202.2 million of sales to customers in Europe, \$57.5 million of sales to customers in Asia Pacific, \$31.7 million of sales to customers in Africa, \$32.9 million of sales to customers in the Middle East, \$52.7 million of sales to customers in Latin American countries, and \$30.1 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 the years ended December 31, 2008 and 2007, international sales comprised 60% and 62%, respectively, of total net revenues. In recent years, the CIS and certain Latin American countries have experienced economic problems and uncertainties. However, given the recent market downturn, more countries and areas of the world have also begun to experience economic problems and uncertainties. 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 collectibility of our existing receivables, our future results of operations, liquidity, and financial condition may be adversely affected. We currently require customers in these higher risk countries to provide their own financing and in some cases assist the customer in organizing international financing and Export-Import credit guarantees provided by the United States government. We do not currently extend long-term credit through notes to companies in countries we consider to be inappropriate for credit risk purposes.

### **Certain Relationships and Related Party Transactions**

James M. Lapeyre, Jr. is chairman of our board of directors. He is also the chairman and a significant equity owner of Laitram, L.L.C. (Laitram) 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 9.4% of our outstanding common stock as of February 20, 2009.

We acquired DigiCourse, Inc., our marine positioning products business, from Laitram in 1998 and have renamed it I/O Marine Systems, Inc. In connection with that acquisition, we entered into a Continued Services Agreement with Laitram under which Laitram agreed to provide us certain accounting, 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, 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 a lease of commercial property dated February 1, 2006, between Lapeyre Properties L.L.C. (an affiliate of Laitram) and ION, we agreed to lease certain office and warehouse space from Lapeyre Properties until January 2011. During 2008, we paid Laitram a total of approximately \$4.3 million, which consisted of approximately \$3.4 million for manufacturing services, \$0.8 million for rent and other pass-through third party facilities charges, and \$0.1 million for other services. For the 2007 and 2006 fiscal years, we paid Laitram a total of approximately \$4.9 million and \$3.6 million 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 part of our ongoing business, we do not participate in transactions that generate material relationships with unconsolidated entities or financial partnerships, such as entities often referred to as structured finance or special purpose entities (SPEs) that would have been established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes. As a result, we have no material off-balance sheet arrangements.



## **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 to foreign currency exchange rates.

### **Interest Rate Risk**

On December 31, 2008, we had outstanding total indebtedness of approximately \$291.9 million, including capital lease obligations. Of that indebtedness, approximately \$227.1 million accrues interest under rates that fluctuate based upon market rates plus an applicable margin. Approximately \$120.3 million in term loan indebtedness and \$66.0 million in total revolving credit indebtedness were outstanding under the Amended Credit Facility at December 31, 2008. The \$120.3 million term loan accrued interest using a LIBOR-based interest rate of 6.02% per annum. The average effective interest rate for the quarter ended December 31, 2008 under the LIBOR-based rate was 5.7%. As of December 31, 2008, the \$66.0 million of outstanding revolving credit facility indebtedness accrued interest under the alternate base interest rate (using the prime-based rate) at a rate of 6.88% per annum. The average effective interest rate for the quarter ended December 31, 2008 under the alternate base interest rate was 5.7%. Each 100 basis point increase in the interest rate would have the effect of increasing the annual amount of interest to be paid in total by approximately \$1.9 million. As of December 31, 2008, the interest rate relating to our \$40.8 million Bridge Loan entered into on December 30, 2008 was 15.0%, excluding additional fees. Each 100 basis point increase in the interest rate on the Bridge Loan would have the effect of increasing the annual amount of interest to be paid in total by approximately \$0.4 million.

With respect to our fixed-rate long-term debt outstanding, the fair market value of our outstanding notes payable and long-term debt was \$26.4 million at December 31, 2007. Approximately \$272.1 million of our total outstanding indebtedness was renegotiated on December 30, 2008 and was thus held at fair market value as of December 31, 2008. The value assigned to the remaining \$19.8 million of indebtedness out of the total \$291.9 million indebtedness at December 31, 2008 has not materially changed and is also thus stated at its fair value.

### **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 Canadian dollars (CAD). 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 United Kingdom, Canada, the Netherlands, China, Venezuela, India, Russia, the United Arab Emirates, and other countries. Our financial results may be affected by changes in foreign currency exchange rates. Our consolidated balance sheet at December 31, 2008 reflected approximately \$60.1 million of net working capital related to our foreign subsidiaries. A majority of our foreign net working capital is within Canada and the United Kingdom. The subsidiaries in those countries receive their income and pay their expenses primarily in Canadian dollars (CDN) and pounds sterling (GBP), respectively. To the extent that transactions of these subsidiaries are settled in CDN or GBP, 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 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 by us in reports filed or submitted under the Exchange Act, is recorded, processed, summarized, and reported within the time periods specified in 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. There are inherent limitations to the effectiveness of any system of disclosure controls and procedures, including the possibility of human error and the circumvention or overriding of the controls and procedures. Accordingly, even effective disclosure controls and procedures can only provide reasonable assurance of achieving their control objectives.

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, 2008. Based upon that evaluation, our principal executive officer and our principal financial officer believe that our disclosure controls and procedures were effective as of December 31, 2008.

(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 Rule 12b-2 under the Exchange Act, a material weakness is defined as a deficiency, or a combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of the company's annual or interim financial statements will not be prevented or detected on a timely basis.

We have excluded from the scope of our assessment of internal control over financial reporting the operations and related assets of ARAM Systems Ltd., which we acquired on September 18, 2008. At December 31, 2008 and for the period from September 18 through December 31, 2008, total assets, total liabilities and total revenues subject to ARAM's internal control over financial reporting represented 9.5%, 2.5% and 3.2% of ION's consolidated total assets, total liabilities and total revenues, respectively, as of and for the year ended December 31, 2008.

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, 2008 based upon criteria established in *Internal Control — Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Management's assessment concluded that our internal control over financial reporting was effective as of December 31, 2008.

Our independent registered public accounting firm has issued an audit report on our internal control over financial reporting. This report appears below.

(c) *Changes in Internal Control.* There was not any change in our internal control over financial reporting that occurred during the fourth quarter of fiscal 2008 that 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

We have audited ION Geophysical Corporation's internal control over financial reporting as of December 31, 2008, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (the COSO criteria). ION Geophysical Corporation'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.

As indicated in the accompanying Management's Report on Internal Control Over Financial Reporting, management's assessment of and conclusion on the effectiveness of internal control over financial reporting did not include the internal controls of ARAM Systems, Ltd., which is included in the 2008 consolidated financial statements of ION Geophysical Corporation and constituted 9.5% and 2.5% of total assets and liabilities, respectively, as of December 31, 2008 and 3.2% of revenues for the year then ended. Our audit of internal control over financial reporting of ION Geophysical Corporation also did not include an evaluation of the internal control over financial reporting of ARAM Systems, Ltd.

In our opinion, ION Geophysical Corporation maintained, in all material respects, effective internal control over financial reporting as of December 31, 2008, 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, 2008 and 2007 and the related consolidated statements of operations, stockholders' equity and comprehensive income (loss), and cash flows for each of the three years in the period ended December 31, 2008 and our report dated February 27, 2009 expressed an unqualified opinion thereon.

/s/ Ernst & Young LLP

Houston, Texas  
February 27, 2009

#### **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 27, 2009 (the “2009 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 2009 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 2009 Proxy Statement, under “*Item 1 — Section 16(a) Beneficial Ownership Reporting Compliance*,” 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 2009 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 2009 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 Designation of Series D-3 Cumulative Convertible Preferred Stock dated February 20, 2008, filed on February 22, 2008 as Exhibit 3.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 4.6 — 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.
- 4.7 — 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.
- 4.8 — 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.
- 4.9 — 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.
- 4.10 — 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.
- \*\*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 — Employment Agreement dated effective as of May 22, 2006 between Input/Output, Inc. and R. Brian Hanson, filed on May 1, 2006 as Exhibit 10.1 to the Company's Form 8-K, and incorporated herein by reference.
- \*\*10.7 — First Amendment to Employment Agreement dated as of August 20, 2007 between Input/Output, Inc. and R. Brian Hanson, filed on August 21, 2007 as Exhibit 10.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- \*\*10.8 — Second Amendment to Employment Agreement, dated as of December 1, 2008, between ION Geophysical Corporation and R. Brian Hanson, filed on January 29, 2009 as Exhibit 10.2 to the Company's Current Report on Form 8-K and

incorporated herein by reference.

- \*\*10.9 — 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.
- \*\*10.10 — Fourth Amended and Restated - 2004 Long-Term Incentive Plan, filed as Appendix A to the definitive proxy statement for the 2008 Annual Meeting of Stockholders of ION Geophysical Corporation, filed on April 21, 2008, and incorporated herein by reference.
- 10.11 — 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.
- \*\*10.12 — 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.
- \*\*10.13 — 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.
- \*\*10.14 — 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.
- \*\*10.15 — 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.
- \*\*10.16 — 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.
- \*\*10.17 — 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.
- \*\*10.18 — 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.
- \*\*10.19 — 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.
- \*\*10.20 — 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.
- \*\*10.21 — 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.
- \*\*10.22 — Employment Agreement, dated as of December 1, 2008, between ION Geophysical Corporation and James R. Hollis, filed on January 29, 2009 as Exhibit 10.3 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- \*\*10.23 — 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.
- 10.24 — 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.
- 10.25 — 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.
- \*\*10.26 — 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.
- \*\*10.27 — 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.

- 10.28 — 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.
- 10.29 — 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.
- \*\*10.30 — 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.
- 10.31 — Amended and Restated Credit Agreement dated as of July 3, 2008, by and among ION Geophysical Corporation, ION International S.À R.L., HSBC Bank USA, N.A., as administrative agent, joint lead arranger and joint bookrunner, ABN AMRO Incorporated, as joint lead arranger and joint bookrunner, and CitiBank, N.A., as syndication agent, filed on July 8, 2008 as Exhibit 10.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 10.32 — First Amendment to Amended and Restated Credit Agreement and Domestic Security Agreement, dated as of September 17, 2008, by and among ION Geophysical Corporation, ION International S.À R.L., HSBC Bank USA, N.A., as administrative agent, joint lead arranger and joint bookrunner, ABN AMRO Incorporated, as joint lead arranger and joint bookrunner, and CitiBank, N.A., as syndication agent, filed on September 23, 2008 as Exhibit 10.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 10.33 — Third Amendment to Amended and Restated Credit Agreement dated as of December 29, 2008, by and among ION Geophysical Corporation, ION International S.À R.L., the Guarantors and Lenders party thereto and HSBC Bank USA, N.A., as administrative agent, filed on January 5, 2009 as Exhibit 10.3 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 10.34 — Fourth Amendment to Amended and Restated Credit Agreement and Foreign Security Agreement, Limited Waiver and Release dated as of December 30, 2008, by and among ION Geophysical Corporation, ION International S.À R.L., the Guarantors and Lenders party thereto and HSBC Bank USA, N.A., as administrative agent, filed on January 5, 2009 as Exhibit 10.4 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- \*\*10.35 — 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.
- \*\*10.36 — Consulting Services Agreement dated as of October 19, 2006, by and between GX Technology Corporation and Michael K. Lambert, filed on October 24, 2006 as Exhibit 10.2 to the Company's Current Report on Form 8-K, and incorporated herein by reference.
- \*\*10.37 — First Amendment to Consulting Services Agreement dated as of January 5, 2007, by and between GX Technology Corporation and Michael K. Lambert, filed on January 8, 2007 as Exhibit 10.1 to the Company's Current Report on Form 8-K, and incorporated herein by reference.
- \*\*10.38 — Letter agreement dated October 19, 2006, by and between the Company and Michael K. Lambert, filed on October 24, 2006 as Exhibit 10.1 to the Company's Current Report on Form 8-K, and incorporated herein by reference.
- \*\*10.39 — Severance Agreement dated as of December 1, 2008, between ION Geophysical Corporation and Charles J. Ledet, filed on December 5, 2008 as Exhibit 10.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 10.40 — Consulting Agreement dated as of December 1, 2008, between ION Geophysical Corporation and Charles J. Ledet, filed on December 5, 2008 as Exhibit 10.2 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 10.41 — Rights Agreement, dated as of December 30, 2008, between ION Geophysical Corporation and Computershare Trust Company, N.A., as Rights Agent, filed as Exhibit 4.1 to the Company's Form 8-A (Registration No. 001-12691) and incorporated herein by reference.
- 10.42 — Amended and Restated Share Purchase Agreement, dated as of September 17, 2008, by and among ION Geophysical Corporation, Aram Systems Ltd., Canadian Seismic Rentals Inc. and the Sellers party thereto, filed on September 23, 2008 as Exhibit 2.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 10.43 — Assignment Agreement dated as of December 30, 2008 by and among 3226509 Nova Scotia Company, ARAM Systems Ltd., Canadian Seismic Rentals Inc., Maison Mazel Ltd. and ION Geophysical Corporation, filed on January 5, 2009 as Exhibit 10.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 10.44 — Release Agreement dated as of December 30, 2008 by and among ION Geophysical Corporation, 3226509 Nova Scotia Company, ARAM Systems Ltd., Canadian Seismic Rentals Inc., Maison Mazel Ltd. and the Sellers party thereto, filed on January 5, 2009 as Exhibit 10.2 to the Company's Current Report on Form 8-K and incorporated herein by reference.

- 10.45 — Bridge Loan Agreement dated as of December 30, 2008, by and among ION Geophysical Corporation, the Guarantors and Lenders party thereto and Jefferies Finance LLC, as administrative agent, sole bookrunner and sole lead arranger, filed on January 5, 2009 as Exhibit 10.5 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 10.46 — Amended and Restated Subordinated Promissory Note dated December 30, 2008, made by 3226509 Nova Scotia Company in favor of Maison Mazel Ltd., filed on January 5, 2009 as Exhibit 10.6 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- \* \*\*10.47 — ION Stock Appreciation Rights Plan dated November 17, 2008.
- \*21.1 — Subsidiaries of the Company.
- \*23.1 — Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm.
- \*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.

\* Filed herewith.

\*\* Management contract or compensatory plan or arrangement.

(b) *Exhibits required by Item 601 of Regulation S-K.*

Reference is made to subparagraph (a) (3) of this Item 15, which is incorporated herein by reference.

(c) *Not applicable.*



## SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized in the City of Houston, State of Texas, on March 2, 2009.

### ION GEOPHYSICAL CORPORATION

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

## POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Robert P. Peebler and David L. Roland and each of them, as his or her true and lawful attorneys-in-fact and agents with full power of substitution and re-substitution for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all documents relating to the Annual Report on Form 10-K for the year ended December 31, 2008, including any and all amendments and supplements thereto, and to file the same with all exhibits thereto and other documents in connection therewith with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully as to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or their or his substitute or substitutes may lawfully do or cause to be done by virtue hereof.

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

<u>Name</u>	<u>Capacities</u>	<u>Date</u>
<u>/s/ ROBERT P. PEEBLER</u> Robert P. Peebler	Chief Executive Officer and Director (Principal Executive Officer)	March 2, 2009
<u>/s/ R. BRIAN HANSON</u> R. Brian Hanson	Executive Vice President and Chief Financial Officer (Principal Financial Officer)	March 2, 2009
<u>/s/ MICHAEL L. MORRISON</u> Michael L. Morrison	Vice President and Corporate Controller (Principal Accounting Officer)	March 2, 2009
<u>/s/ JAMES M. LAPEYRE, JR.</u> James M. Lapeyre, Jr.	Chairman of the Board of Directors and Director	March 2, 2009
<u>/s/ BRUCE S. APPELBAUM</u> Bruce S. Appelbaum	Director	March 2, 2009
<u>/s/ THEODORE H. ELLIOTT, JR.</u> Theodore H. Elliott, Jr.	Director	March 2, 2009
<u>/s/ G. THOMAS MARSH</u> G. Thomas Marsh	Director	March 2, 2009
<u>/s/ FRANKLIN MYERS</u> Franklin Myers	Director	March 2, 2009
<u>/s/ S. JAMES NELSON, JR.</u> S. James Nelson, Jr.	Director	March 2, 2009
<u>/s/ JOHN N. SEITZ</u> John N. Seitz	Director	March 2, 2009
<u>/s/ NICHOLAS G. VLAHAKIS</u> Nicholas G. Vlahakis	Director	March 2, 2009

**ION GEOPHYSICAL CORPORATION AND SUBSIDIARIES**  
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All other schedules are omitted because they are not applicable or the required information is shown in the financial statements or notes thereto.

## Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders of ION Geophysical Corporation

We have audited the accompanying consolidated balance sheets of ION Geophysical Corporation and subsidiaries as of December 31, 2008 and 2007, and the related consolidated statements of operations, stockholders' equity and comprehensive income (loss), and cash flows for each of the three years in the period ended December 31, 2008. 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, 2008 and 2007, and the consolidated results of their operations and their cash flows for each of the three years in the period ended December 31, 2008, 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.

As discussed in Note 15 to the consolidated financial statements, in 2007 the Company adopted FASB Interpretation No. 48, *Accounting for Uncertainty in Income Taxes, an Interpretation of FASB Statement No. 109*, and as discussed in Note 1 to the consolidated financial statements, in 2006 the Company adopted Statement of Financial Accounting Standards No. 123 (revised 2004), *Share-Based Payment*.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), ION Geophysical Corporation's internal control over financial reporting as of December 31, 2008, 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 27, 2009, expressed an unqualified opinion thereon.

/s/ Ernst & Young LLP

Houston, Texas  
February 27, 2009

**ION GEOPHYSICAL CORPORATION AND SUBSIDIARIES**  
**CONSOLIDATED BALANCE SHEETS**

	<b>December 31,</b>	
	<b>2008</b>	<b>2007</b>
	<b>(In thousands, except share data)</b>	
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents.....	\$ 35,172	\$ 36,409
Restricted cash.....	6,610	7,052
Accounts receivable, net.....	150,565	188,029
Current portion notes receivable, net.....	11,665	5,454
Unbilled receivables.....	36,472	22,388
Inventories.....	262,519	128,961
Prepaid expenses and other current assets.....	20,386	12,717
Total current assets.....	523,389	401,010
Notes receivable.....	4,438	—
Deferred income tax asset.....	11,757	2,872
Property, plant and equipment, net.....	59,129	36,951
Multi-client data library, net.....	89,519	59,689
Goodwill.....	49,772	153,145
Intangible assets, net.....	107,443	40,907
Other assets.....	15,984	14,575
Total assets.....	\$ 861,431	\$ 709,149
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
Current liabilities:		
Notes payable and current maturities of long-term debt.....	\$ 38,399	\$ 14,871
Accounts payable.....	94,586	44,674
Accrued expenses.....	77,046	66,911
Accrued multi-client data library royalties.....	28,044	29,962
Deferred revenue.....	17,767	21,278
Deferred income tax liability.....	392	2,792
Total current liabilities.....	256,234	180,488
Long-term debt, net of current maturities.....	253,510	9,842
Non-current deferred income tax liability.....	22,713	3,384
Other long-term liabilities.....	3,904	4,195
Total liabilities.....	536,361	197,909
Cumulative convertible preferred stock.....	—	35,000
Commitments and contingencies		
Stockholders' equity:		
Cumulative convertible preferred stock.....	68,786	—
Common stock, \$.01 par value; authorized 200,000,000 shares; outstanding 99,621,926 and 93,847,608 shares at December 31, 2008 and 2007, respectively, net of treasury stock.....	996	948
Additional paid-in capital.....	694,261	559,255
Accumulated deficit.....	(376,552)	(82,839)
Accumulated other comprehensive income (loss).....	(55,859)	5,460
Treasury stock, at cost, 848,422 and 853,402 shares at December 31, 2008 and 2007, respectively.....	(6,562)	(6,584)
Total stockholders' equity.....	325,070	476,240
Total liabilities and stockholders' equity.....	\$ 861,431	\$ 709,149

See accompanying Notes to Consolidated Financial Statements.

**ION GEOPHYSICAL CORPORATION AND SUBSIDIARIES**  
**CONSOLIDATED STATEMENTS OF OPERATIONS**

	<u>Years Ended December 31,</u>		
	<u>2008</u>	<u>2007</u>	<u>2006</u>
	(In thousands, except per share data)		
Product revenues.....	\$ 417,511	\$ 537,691	\$ 354,258
Service revenues.....	<u>262,012</u>	<u>175,420</u>	<u>149,298</u>
Total net revenues.....	<u>679,523</u>	<u>713,111</u>	<u>503,556</u>
Cost of products.....	289,795	386,849	252,647
Cost of services.....	<u>181,980</u>	<u>119,679</u>	<u>91,592</u>
Gross profit.....	<u>207,748</u>	<u>206,583</u>	<u>159,317</u>
Operating expenses:			
Research, development and engineering.....	49,541	49,965	37,853
Marketing and sales.....	47,854	43,877	40,651
General and administrative.....	70,893	48,847	40,865
Impairment of goodwill and intangible assets.....	<u>252,283</u>	<u>—</u>	<u>—</u>
Total operating expenses.....	<u>420,571</u>	<u>142,689</u>	<u>119,369</u>
Income (loss) from operations.....	(212,823)	63,894	39,948
Interest expense.....	(12,723)	(6,283)	(5,770)
Interest income.....	1,439	1,848	2,040
Loss on debt conversion.....	—	(2,902)	—
Fair value adjustment of preferred stock redemption features.....	1,215	—	—
Other income (expense).....	<u>2,985</u>	<u>(1,090)</u>	<u>(2,161)</u>
Income (loss) before income taxes and change in accounting principle.....	(219,907)	55,467	34,057
Income tax expense.....	<u>1,131</u>	<u>12,823</u>	<u>5,114</u>
Net income (loss) before change in accounting principle.....	(221,038)	42,644	28,943
Cumulative effect of change in accounting principle.....	<u>—</u>	<u>—</u>	<u>398</u>
Net income (loss).....	(221,038)	42,644	29,341
Preferred stock dividends and accretion.....	3,889	2,388	2,429
Preferred stock beneficial conversion charge.....	<u>68,786</u>	<u>—</u>	<u>—</u>
Net income (loss) applicable to common shares.....	<u>\$ (293,713)</u>	<u>\$ 40,256</u>	<u>\$ 26,912</u>
Basic earnings per share:			
Net income (loss) per basic share before change in accounting principle.....	\$ (3.06)	\$ 0.49	\$ 0.33
Cumulative effect of change in accounting principle.....	<u>—</u>	<u>—</u>	<u>0.01</u>
Net income (loss) per basic share.....	<u>\$ (3.06)</u>	<u>\$ 0.49</u>	<u>\$ 0.34</u>
Diluted earnings per share:			
Net income (loss) per diluted share before change in accounting principle.....	\$ (3.06)	\$ 0.45	\$ 0.32
Cumulative effect of change in accounting principle.....	<u>—</u>	<u>—</u>	<u>0.01</u>
Net income (loss) per diluted share.....	<u>\$ (3.06)</u>	<u>\$ 0.45</u>	<u>\$ 0.33</u>
Weighted average number of common shares outstanding:			
Basic.....	95,887	81,941	79,497
Diluted.....	95,887	97,321	95,182

See accompanying Notes to Consolidated Financial Statements.

**ION GEOPHYSICAL CORPORATION AND SUBSIDIARIES**  
**CONSOLIDATED STATEMENTS OF CASH FLOWS**

	Years Ended December 31		
	2008	2007	2006
	(In thousands)		
<b>Cash flows from operating activities:</b>			
Net income (loss) .....	\$ (221,038)	\$ 42,644	\$ 29,341
Adjustments to reconcile net income (loss) to net cash provided by operating activities:			
Cumulative effect of change in accounting principle .....	—	—	(398)
Depreciation and amortization (other than multi-client library) .....	33,052	26,767	22,036
Amortization of multi-client data library .....	80,532	37,662	25,011
Stock-based compensation expense related to stock options, nonvested stock, and employee stock purchases.....	8,306	6,875	6,121
Bad debt expense .....	4,852	437	577
Amortization of debt discount .....	816	—	—
Fair value adjustment of preferred stock redemption features.....	(1,215)	—	—
Impairment of goodwill and intangible assets .....	252,283	—	—
Deferred income tax .....	(17,549)	2,960	(1,014)
Excess tax benefit from stock-based compensation.....	(328)	—	—
Profit on sale of rental assets .....	(3,190)	—	—
(Gain) loss on disposal of fixed assets.....	117	(253)	58
Change in operating assets and liabilities:			
Accounts and notes receivable.....	37,673	(14,348)	(45,243)
Unbilled receivables .....	(14,084)	6,211	(13,529)
Inventories .....	(89,998)	(11,270)	(32,697)
Accounts payable, accrued expenses and accrued royalties .....	46,160	8,674	43,235
Deferred revenue .....	(6,088)	(16,203)	25,386
Other assets and liabilities .....	1,414	3,604	(910)
Net cash provided by operating activities .....	<u>111,715</u>	<u>93,760</u>	<u>57,974</u>
<b>Cash flows from investing activities:</b>			
Purchase of property, plant and equipment.....	(17,539)	(11,375)	(13,704)
Investment in multi-client data library.....	(110,362)	(64,279)	(39,087)
Business acquisition.....	(242,835)	—	—
Cash of acquired business.....	10,677	—	—
Proceeds from the sale of fixed assets and rental equipment.....	5,434	386	311
Increase in cost method investments.....	—	(700)	(254)
Other investing activities .....	—	—	2,909
Net cash used in investing activities.....	<u>(354,625)</u>	<u>(75,968)</u>	<u>(49,825)</u>
<b>Cash flows from financing activities:</b>			
Borrowings under revolving line of credit.....	235,000	175,000	36,265
Repayments under revolving line of credit.....	(169,000)	(175,000)	(39,265)
Net proceeds from issuance of debt.....	160,308	—	—
Payments on notes payable and long-term debt.....	(18,082)	(8,424)	(6,940)
Issuance of preferred stock .....	35,000	5,000	—
Payment of preferred dividends .....	(3,889)	(2,375)	(2,280)
Proceeds from employee stock purchases and exercise of stock options.....	6,323	8,038	4,435
Restricted stock cancelled for employee minimum income taxes .....	(1,660)	(1,314)	—
Excess tax benefit from stock-based compensation.....	328	—	—
Purchases of treasury stock.....	(39)	(117)	(615)
Net cash provided by (used in) financing activities .....	<u>244,289</u>	<u>808</u>	<u>(8,400)</u>
Effect of change in foreign currency exchange rates on cash and cash equivalents .....	<u>(2,616)</u>	<u>753</u>	<u>1,454</u>
Net (decrease) increase in cash and cash equivalents .....	<u>(1,237)</u>	<u>19,353</u>	<u>1,203</u>
Cash and cash equivalents at beginning of period .....	<u>36,409</u>	<u>17,056</u>	<u>15,853</u>
Cash and cash equivalents at end of period .....	<u>\$ 35,172</u>	<u>\$ 36,409</u>	<u>\$ 17,056</u>

See accompanying Notes to Consolidated Financial Statements.

**ION GEOPHYSICAL CORPORATION AND SUBSIDIARIES**  
**CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY AND**  
**COMPREHENSIVE INCOME (LOSS)**

	Cumulative Convertible Preferred Stock		Common Stock		Additional Paid - In Capital	Accumulated Deficit	Accumulated Other Comprehensive Income (Loss)	Treasury Stock	Unamortized Restricted Stock Compensation	Total Stockholders' Equity
	Shares	Amount	Shares	Amount						
(In thousands, except per share data)										
Balance at January 1, 2006	—	\$ —	79,764,338	\$ 807	\$ 487,232	\$ (150,007)	\$ (728)	\$ (5,968)	\$ (3,791)	\$ 327,545
Comprehensive income:										
Net income applicable to common shares	—	—	—	—	—	26,912	—	—	—	26,912
Other comprehensive income:										
Translation adjustment	—	—	—	—	—	—	5,587	—	—	5,587
Total comprehensive income										32,499
Stock-based compensation expense	—	—	—	—	6,121	—	—	—	—	6,121
Impact of adoption of SFAS 123R on restricted stock	—	—	(743,238)	(7)	(4,182)	—	—	—	3,791	(398)
Purchase of treasury stock	—	—	(62,883)	(1)	—	—	—	(615)	—	(616)
Exercise of stock options	—	—	778,921	8	3,788	—	—	—	—	3,796
Vesting of restricted stock units/awards	—	—	263,787	2	(2)	—	—	—	—	—
Issuance of stock for the ESPP	—	—	113,582	1	640	—	—	—	—	641
Issuance of treasury stock	—	—	8,979	—	8	—	—	72	—	80
Balance at December 31, 2006			80,123,486	810	493,605	(123,095)	4,859	(6,511)	—	369,668
Comprehensive income:										
Net income applicable to common shares	—	—	—	—	—	40,256	—	—	—	40,256
Other comprehensive income:										
Translation adjustment	—	—	—	—	—	—	601	—	—	601
Total comprehensive income										40,857
Stock-based compensation expense	—	—	—	—	6,875	—	—	—	—	6,875
Purchase of treasury stock	—	—	(8,548)	—	—	—	—	(117)	—	(117)
Exercise of stock options	—	—	1,036,794	10	6,960	—	—	—	—	6,970
Vesting of restricted stock units/awards	—	—	455,307	4	(4)	—	—	—	—	—
Restricted stock cancelled for employee minimum income taxes	—	—	(91,732)	—	(1,314)	—	—	—	—	(1,314)
Issuance of stock for the ESPP	—	—	113,763	2	1,068	—	—	—	—	1,070
Conversion of 5.5% convertible senior notes	—	—	12,212,964	122	52,030	—	—	—	—	52,152
Issuance of treasury stock	—	—	5,574	—	35	—	—	44	—	79
Balance at December 31, 2007			93,847,608	948	559,255	(82,839)	5,460	(6,584)	—	476,240
Comprehensive income:										
Net loss applicable to common shares	—	—	—	—	—	(293,713)	—	—	—	(293,713)
Other comprehensive loss:										
Translation adjustment	—	—	—	—	—	—	(61,319)	—	—	(61,319)
Total comprehensive loss										(355,032)
Reclassification of preferred stock to equity	70,000	68,786	—	—	—	—	—	—	—	68,786
Preferred stock beneficial conversion charge	—	—	—	—	68,786	—	—	—	—	68,786
Stock-based compensation expense	—	—	—	—	8,306	—	—	—	—	8,306
Purchase of treasury stock	—	—	(2,745)	—	—	—	—	(39)	—	(39)
Issuance of stock for ARAM acquisition	—	—	3,629,211	36	48,922	—	—	—	—	48,958
Exercise of stock options	—	—	656,166	6	4,842	—	—	—	—	4,848
Vesting of restricted stock units/awards	—	—	550,083	5	(5)	—	—	—	—	—
Restricted stock cancelled for employee minimum income taxes	—	—	(101,991)	—	(1,660)	—	—	—	—	(1,660)
Issuance of stock for the ESPP	—	—	109,943	1	1,474	—	—	—	—	1,475
Conversion of 5.5% convertible senior notes	—	—	925,926	9	3,996	—	—	—	—	4,005
Tax benefits from stock-based compensation	—	—	—	—	271	—	—	—	—	271
Issuance of treasury stock	—	—	7,725	—	65	—	—	61	—	126
Other equity adjustments	—	—	—	(9)	9	—	—	—	—	—
Balance at December 31, 2008	70,000	\$ 68,786	99,621,926	\$ 996	\$ 694,261	\$ (376,552)	\$ (55,859)	\$ (6,562)	\$ —	\$ 325,070

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, Overview and Principles of Consolidation.* ION Geophysical Corporation (formerly Input/Output, Inc.) and its wholly-owned subsidiaries offer a full suite of related products and services for seismic data acquisition and processing, including products incorporating traditional analog technologies and products incorporating the proprietary VectorSeis, True Digital™ technology. The consolidated financial statements include the accounts of ION Geophysical Corporation and its wholly-owned subsidiaries (collectively referred to as the “Company” or “ION”). Inter-company balances and transactions have been eliminated.

Demand for the Company’s products and services is cyclical and substantially dependent upon activity levels in the oil and gas industry, particularly the Company’s customers’ willingness to expend their capital for oil and natural gas exploration and development projects. This demand is highly sensitive to current and expected future oil and natural gas prices.

The current global financial crisis, which has contributed, among other things, to significant reductions in available capital and liquidity from banks and other providers of credit, has resulted in the worldwide economy entering into a recessionary period, which may be prolonged and severe. During 2008, oil prices were highly volatile, increasing to record levels in the second quarter of 2008 and then sharply declining thereafter. Falling crude oil prices prompted the Organization of Petroleum Exporting Countries (OPEC) to announce reductions in oil production quotas. U.S. inventory levels for natural gas rose higher than expected during 2008, and North American natural gas prices (NYMEX) have fallen from the \$13.00 per Mcf level during the summer of 2008 to below \$5.00 per Mcf. The uncertainty surrounding future economic activity levels and the tightening of credit availability has resulted in decreased activity levels for most of the Company’s businesses. The Company’s land seismic businesses in North America and Russia have been particularly adversely affected. The Company expects that exploration and production expenditures will be constrained to the extent E&P companies and seismic contractors are limited in their access to the credit markets as a result of further disruptions in, or a more conservative lending stance by, the lending markets. There is significant uncertainty about future activity levels and the impact on the Company’s businesses. Furthermore, both the Company’s seismic contractor customers and the E&P companies that are users of its products, services and technology have reduced their capital spending.

While the current global recession and the decline in oil and gas prices have slowed demand for the Company’s products and services in the near term, the Company believes that overcoming the long-term decline rates in oil and gas production compared to the discoveries of new oil and gas reserves will prove to be very difficult. The Company believes that technology that adds a competitive advantage through cost reductions or improvements in productivity will continue to be valued in its marketplace, even in 2009. For example, the Company believes that its new technologies, such as FireFly, DigiFIN and Orca, will continue to attract interest because they are designed to deliver improvements in image quality within more productive delivery systems. While it is difficult to determine the length and severity of the downturn, the Company believes the long-term prospects for the exploration and production industry and the Company are still fundamentally positive.

In response to this downturn, the Company has taken measures to reduce costs, particularly in its land seismic business in connection with its integration of ARAM into its legacy land product lines. In addition, the Company has slowed its capital spending, including investments for its multi-client data library. Through a variety of ways, the Company is exploring ways to reduce its cost structure. The most significant cost reduction to date related to reduced headcount (an approximate 13% reduction) in the fourth quarter of 2008 and the first quarter of 2009 to adjust to the expected lower levels of activity. The Company plans to reduce its research and development spending but will continue to fund strategic programs to position the Company for the expected rebound in economic activity. Overall, the Company will give priority to generating cash flow and taking steps to reduce its cost structure, while maintaining its long-term commitment to continued technology development and maintaining compliance with its covenants.

At December 31, 2008, the Company was in compliance with all of its financial covenants under its principal debt agreements. The Company believes that, based on its 2009 operating plan, it will remain in compliance with these financial covenants during 2009 and have sufficient liquidity to fund its operations throughout 2009. The Company also believes that it has the ability to make additional cost reductions in order to mitigate the impact that a decrease in revenues from its operating plan could have on its covenants compliance. However, even though not currently considered likely, there are certain scenarios and events beyond the Company’s control, such as further declines in E&P company and seismic contractor spending, significant write-downs of accounts receivable, changes in certain exchange rates and other factors, that could cause the Company to fall out



of compliance with certain financial covenants contained in the amended commercial banking credit facility (the "Amended Credit Facility") and the \$40.8 million of indebtedness outstanding under a Bridge Loan Agreement (the "Bridge Loan Agreement"). The Company's failure to comply with such covenants could result in an event of default that, if not cured or waived, could have a material adverse effect on the Company's financial condition, results of operations and debt service capabilities. If the Company was not able to satisfy all of these covenants, the Company would need to seek to amend, or seek one or more waivers of, those covenants under the Amended Credit Facility and the Bridge Loan Agreement. There can be no assurance that the Company would be able to obtain any such waivers or amendments, in which case the Company would likely seek to obtain new secured debt, unsecured debt or equity financing. However, there also can be no assurance that such debt or equity financing would be available on terms acceptable to the Company or at all. In the event that the Company would need to amend the Amended Credit Facility and the Bridge Loan Agreement, or obtain new financing, the Company would likely incur up front fees and higher interest costs and other terms in the amendment would likely be less favorable to the Company than those currently provided under the Amended Credit Facility and the Bridge Loan Agreement.

As of December 31, 2008, the Company had available \$34.0 million (without giving effect to \$1.2 million of outstanding letters of credit) of additional revolving credit borrowing capacity under the Amended Credit Facility. However, as of February 23, 2009, the Company had available only \$0.8 million of additional revolving credit borrowing capacity, which can be used only to fund further letters of credit under the Amended Credit Facility. The Company's cash and cash equivalents as of February 23, 2009 was approximately \$48.3 million compared to \$35.2 million at December 31, 2008.

The Company intends to pay or refinance much of its indebtedness that it borrowed to complete the acquisition of ARAM, which includes the \$40.8 million Bridge Loan Agreement scheduled to mature on January 31, 2010 and the \$35.0 million Amended and Restated Subordinated Seller Note scheduled to mature on September 17, 2013 (see further discussion at Note 11 "Notes Payable, Long-Term Debt and Lease Obligations"), and is continuing to explore methods to accomplish this. The Company's ability to obtain any refinancing, including any additional debt financing, whether through the issuance of new debt securities or otherwise, and the terms of any such financing are dependent on, among other things, the Company's financial condition, financial market conditions, industry market conditions, credit ratings and numerous other factors. There can be no assurance that the Company will be able to obtain financing on acceptable terms or within an acceptable time, if at all.

*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 exact precision. Areas involving significant estimates include, but are not limited to, accounts and notes receivable, inventory valuation, sales forecast related to multi-client data libraries, goodwill and intangible asset valuation, deferred taxes, and accrued warranty costs. Actual results could 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, 2008 and 2007, there were \$6.6 million and \$7.1 million, respectively, of short-term restricted cash that are used to secure standby and commercial letters of credit.

*Accounts and Notes Receivable.* Accounts and notes receivable are recorded at cost, less the related allowance for doubtful accounts and notes. 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. The Company considers an account or note to be impaired when it is probable that the Company will be unable to collect all amounts due according to the contractual terms. When an account or note is considered impaired, the amount of the impairment is measured based on the present value of expected future cash flows or the fair value of collateral. Impairment losses (recoveries) are included in the allowance for doubtful accounts and notes through an increase (decrease) in bad debt expense.

Notes receivable are generally collateralized by the products sold and bear interest at contractual rates ranging from 8% to 12% per year. For non-interest bearing notes with a maturity greater than one year, or those notes which the stated rate of interest is considered a below market rate of interest, the Company imputes interest using prevailing market rates at the note's origination. Cash receipts on impaired notes are applied to reduce the principal amount of such notes until the principal has been recovered and are recognized as interest income thereafter. The Company records interest income on investments in notes receivable on the accrual basis of accounting. The Company does not accrue interest on impaired loans where collection of interest according to the contractual terms is considered doubtful. Among the factors the Company considers in making an evaluation of the collectibility

of interest are: (i) the status of the loan; (ii) the fair value of the underlying collateral; (iii) the financial condition of the borrower; and (iv) anticipated future events.

*Inventories.* Inventories are stated at the lower of cost (primarily standard cost, which approximates 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 and market conditions.

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

	<u>Years</u>
Machinery and equipment .....	3-8
Buildings.....	10-20
Rental equipment.....	2-7
Leased equipment and other .....	1-10

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 periodically evaluates the net realizable value of long-lived assets, including property, plant and equipment, 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. There were no significant impairment charges during 2008, 2007 and 2006.

*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 the years ended December 31, 2008, 2007, and 2006, the Company capitalized, as part of its multi-client data library, \$5.4 million, \$4.3 million, and \$3.1 million, respectively, of direct internal processing costs. At December 31, 2008 and 2007, multi-client data library creation and accumulated amortization consisted of the following:

	<u>December 31, 2008</u>	<u>December 31, 2007</u>
Gross costs of multi-client data creation.....	\$ 247,881	\$ 137,519
Less accumulated amortization.....	<u>(158,362)</u>	<u>(77,830)</u>
Total.....	<u>\$ 89,519</u>	<u>\$ 59,689</u>

The Company's method of amortizing the costs of a multi-client data library available for commercial sale is the greater of (i) the percentage of actual revenue to the total estimated revenue multiplied by the total cost of the project (the sales forecast method) or (ii) the straight-line basis over a four-year period. The greater of 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. 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 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 more or less than the original estimate of total 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 Statement of Financial Accounting Standards (SFAS) 144

"Accounting for the Impairment and Disposal of Long-Lived Assets," records an impairment charge with respect to such data. There were no significant impairment charges associated with the Company's multi-client data library during 2008, 2007 and 2006.

*Computer Software.* In February 2004, the Company acquired Concept Systems Holding Limited (Concept Systems). A portion of the purchase price was allocated to software available-for-sale and included within Other Assets. The capitalized costs of computer software are charged to costs of products in the period sold, using the greater of (i) the percentage of actual sales to the total estimated sales multiplied by the total costs of the software or (ii) a straight-line amortization rate equal to the software costs divided by its remaining estimated economic life. At December 31, 2008, the total costs of software were \$10.6 million, less accumulated amortization of \$7.3 million. Amortization expense was \$2.0 million, \$2.1 million and \$1.9 million, respectively, for the years ended December 31, 2008, 2007 and 2006.

*Cost Method Investments.* Certain of the Company's investments are accounted for under the cost method. The Company has determined that it is not practicable to estimate the fair value of these investments, as quoted market prices are not available. Therefore, the cost method investments 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. During 2008, 2007 and 2006, there were no events or changes in circumstances that would indicate a significant adverse effect on the fair value of the Company's investments. The aggregate carrying amount of cost method investments was \$5.0 million at December 31, 2008 and 2007, respectively, and included in within Other Assets.

*Equity Method Investment.* 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, and less distributions received.

*Financial Instruments.* Fair value estimates are made at discrete times based on relevant market information. These estimates may be subjective in nature and involve uncertainties and matters of significant judgment and, therefore, cannot be determined with precision. The Company believes that the carrying amount of its cash and cash equivalents, accounts and notes receivable, and accounts payable approximate the fair values at those dates. The fair market value of the Company's notes payable and long-term debt was \$26.4 million at December 31, 2007. Approximately \$272.1 million of the Company's total outstanding indebtedness was re-negotiated on December 30, 2008 and was thus held at fair market value at December 31, 2008. The value assigned to the remaining \$19.8 million of indebtedness from the total \$291.9 million indebtedness at December 31, 2008 has not materially changed and was also thus stated at its fair value.

In 2007 and 2008, the Company periodically entered into economic cash flow and fair value hedges designed to minimize the risks associated with exchange rate fluctuations. The impact to the financial statements is insignificant for both periods with any gains and losses included in the income statement.

*Goodwill and Other Intangible Assets.* For purposes of performing the impairment test for goodwill as required by SFAS 142, the Company established the following reporting units: Land Imaging Systems, ARAM Systems, Sensor Geophone, Marine Imaging Systems, Data Management Solutions, and ION Solutions. To determine the fair value of these reporting units, the Company uses a discounted future returns valuation method.

In accordance with SFAS 142, the Company is required to evaluate the carrying value of its goodwill and certain indefinite-lived intangible assets at least annually for impairment, or more frequently if facts and circumstances indicate that 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. If the carrying value of a reporting unit of an entity that contains goodwill, is determined to be less 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 allocating first the current 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 goodwill is less than the carrying value of goodwill, to record an impairment loss of goodwill as the difference between the implied and carrying value amounts on the Consolidated Statements of Operations in the period in which the impairment is determined.

The Company completed its annual goodwill impairment testing as of December 31, 2008 and determined that all of the goodwill within its Land Imaging Systems, ARAM Systems and ION Solutions reporting units were fully impaired. As a result, the Company recorded a goodwill impairment charge of \$242.2 million. The decrease in these reporting units' fair value was

primarily driven by the overall economic and financial crisis and the decrease in the current demand for the Company's land analog acquisition products, especially within North America and Russia. In making this assessment, the Company relies on a number of factors including operating results, business plans, internal and external economic projections, anticipated future cash flows and external market data.

The remaining goodwill of \$49.8 million relates to the Marine Imaging Systems and Data Management Solutions reporting units. The annual impairment test indicated that the fair value of these two 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 further impairment charges.

The intangible assets other than goodwill relate to proprietary technology, patents, customer relationships, trade names and non-compete agreements that are amortized over the estimated periods of benefit (ranging from 4 to 20 years). Following the guidance of SFAS 144, 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. For the year ended December 31, 2008, the Company determined that certain of the intangible assets (customer relationships, trade names and non-compete agreements) associated with its ARAM acquisition were impaired and recorded an impairment charge of \$10.1 million.

Intangible assets amortized on a straight-line basis are:

	<u>Estimated Useful Life (Years)</u>
Proprietary technology.....	4-8
Customer relationships .....	8
Patents.....	5-20
Trade names.....	5
Non-compete agreements .....	5

Intangible assets amortized on an accelerated basis are:

	<u>Estimated Economic Life (Years)</u>
Customer relationships .....	15
Intellectual property rights.....	5

*Revenue Recognition and Product Warranty.* The Company derives revenue from the sale and rental of (i) acquisition systems and other seismic equipment within its Land Imaging Systems and Marine Imaging Systems segments; (ii) imaging services, multi-client surveys and licenses of "off-the-shelf" data libraries within its ION Solutions segment; and (iii) navigation, survey and quality control software systems within its Data Management Solutions segment.

For the sales of acquisition systems and other seismic equipment, the Company follows the requirements of Staff Accounting Bulletin No. 104 "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 limited case where a substantive customer-specified acceptance clause exists in the contract, the later of delivery or when the customer-specified acceptance is obtained.

The Company's Land Imaging Systems segment receives rental income from the rental of seismic equipment. The rental is in the form of operating leases as the lease terms range from a couple of days to several months. Rental revenue is recognized on a straight line basis over the term of the operating lease.

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.

Revenues from multi-client surveys are recognized 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 survey data is considered "off-the-shelf" and licenses to the survey data are sold to customers on a non-exclusive basis. The license of a completed multi-client survey is represented by the license of one standard set of data. Revenues on licenses of completed multi-client data surveys are

recognized when a signed final master geophysical data license agreement and accompanying supplemental license agreement are returned by the customer, the purchase price for the license is fixed or determinable, delivery or performance has occurred, 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.

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 Emerging Issues Task Force (EITF) 00-21 "*Accounting for Multiple-Element Revenue Arrangement*," and allocates revenue to each element based upon its vendor-specific objective evidence of fair value, so long as each such element meets the criteria for treatment as a separate unit of accounting. The Company limits the amount of revenue recognized for delivered elements to the amount that is not contingent on the future delivery of products or services. The Company generally does not grant return or refund privileges to its customers. When undelivered elements, such as training courses and engineering services, are inconsequential or perfunctory and not essential to the functionality of the delivered elements, the Company recognizes revenue on the total contract and makes a provision for the costs of the incomplete elements.

For the sales of navigation, survey and quality control software systems, the Company follows the requirements of Statement of Position (SOP) 97-2 "*Software Revenue Recognition*," because in those systems the software is more than incidental to the arrangement as a whole. Following the requirements of EITF 03-05 "*Applicability of AICPA Statement of Position 97-2 to Non-Software Deliverables in an Arrangement Containing More-Than-Incidental Software*," the Company considers the hardware within these systems to be a software-related item because the software is essential to the hardware's functionality. As a result, the Company recognizes revenue from sales of navigation, survey and quality control 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 and software-related hardware is delivered to the customer and risk of ownership has passed to the customer, or, in the limited case where a substantive customer-specified acceptance clause exists in the contract, 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 of fair value of the element or, if vendor-specific objective evidence is not available for the delivered element, the Company applies the residual method.

Even though a majority of the Company's software arrangements are licensed on a perpetual basis, the Company does offer certain time-based software licenses. For these time-based licenses, the Company recognizes revenue ratably over the contract term, which is generally two to three years.

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.

*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.

*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, and operating loss and tax credit carry-forwards. Deferred income tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The Company reserves for a significant portion of U.S. net deferred tax assets and will continue to reserve for a significant portion of U.S. net deferred tax assets until there is sufficient evidence to warrant reversal (see Note 15 of *Notes to Consolidated Financial Statements*). 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), consisting of net income (loss) and foreign currency translation adjustments, is presented in the Consolidated Statements of Stockholders' Equity and Comprehensive Income (Loss). The balance in Accumulated Other Comprehensive Income (Loss) consists of foreign currency translation adjustments. In 2008

and 2007, the Company recorded in Accumulated Other Comprehensive Income (Loss) the tax impact of currency translation adjustments of \$2.3 million and \$1.5 million, respectively.

*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, 2008, 2007 and 2006 were 7,893,275, 1,550,800 and 3,734,050, respectively.

There are 70,000 outstanding shares of Series D Cumulative Convertible Preferred Stock, which, prior to the resetting of their conversion prices on November 28, 2008, could have been converted, at the holder's election, into an aggregate of 6,489,260 shares of common stock. See further discussion on the resetting of the Series D Preferred Stock at Note 12 "*Cumulative Convertible Preferred Stock.*" As shown in the table below, the outstanding shares of all Series D Preferred Stock were anti-dilutive for the years ended December 31, 2008, 2007 and 2006.

In July 2008, the holders of \$4.0 million in aggregate principal amount of the Company's outstanding convertible senior notes elected to convert their notes into 925,926 shares of common stock. The remaining \$3.2 million senior convertible notes matured on December 15, 2008. As shown in the table below, the convertible senior notes were dilutive for the years ended December 31, 2007 and 2006.

The following table summarizes the calculation of the weighted average number of common shares and weighted average number of diluted common shares outstanding for purposes of the computation of basic net income (loss) per common share and diluted net income (loss) per common share (in thousands, except per share amounts):

	<u>Years Ended December 31,</u>		
	<u>2008</u>	<u>2007</u>	<u>2006</u>
Net income (loss) applicable to common shares .....	\$ (293,713)	\$ 40,256	\$ 26,912
Income impact of assumed convertible debt conversion .....	—	3,694	4,027
Net income (loss) after impact of assumed convertible debt conversion .....	<u>\$ (293,713)</u>	<u>\$ 43,950</u>	<u>\$ 30,939</u>
Weighted average number of common shares outstanding .....	95,887	81,941	79,497
Effect of dilutive stock awards .....	—	2,629	1,796
Effect of assumed convertible debt conversion .....	—	12,751	13,889
Weighted average number of diluted common shares outstanding .....	<u>95,887</u>	<u>97,321</u>	<u>95,182</u>
Net income (loss) per basic share before change in accounting principle .....	\$ (3.06)	\$ 0.49	\$ 0.33
Cumulative effect of change in accounting principle .....	—	—	0.01
Net income (loss) per basic share .....	<u>\$ (3.06)</u>	<u>\$ 0.49</u>	<u>\$ 0.34</u>
Net income (loss) per diluted share before change in accounting principle .....	\$ (3.06)	\$ 0.45	\$ 0.32
Cumulative effect of change in accounting principle .....	—	—	0.01
Net income (loss) per diluted share .....	<u>\$ (3.06)</u>	<u>\$ 0.45</u>	<u>\$ 0.33</u>

*Foreign Currency Gains and Losses.* Assets and liabilities of the Company's subsidiaries operating outside the United States which account in a functional currency other than U.S. dollars 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) in the Consolidated Statements of Stockholders' Equity and Comprehensive Income (Loss). Foreign currency transaction gains and losses are included in the Consolidated Statements of Operations as they occur. Total foreign currency transaction gains (losses) were \$3.1 million, \$(1.8) million and \$(2.3) million for the years ended December 31, 2008, 2007 and 2006, respectively.

*Concentration of Credit and Foreign Sales Risks.* No single customer represented 10% or more of the Company's consolidated net revenues for the years ended December 31 2008, 2007 and 2006; however, the Company's top five customers in total represented approximately 30%, 31% and 29%, respectively, of the Company's consolidated net revenues. The loss of any significant customers or deterioration in the Company's relationship with these customers could have a material adverse effect on the Company's results of operations and financial condition.

For the twelve months ended December 31, 2008, the Company recognized \$202.2 million of sales to customers in Europe, \$57.5 million of sales to customers in Asia Pacific, \$31.7 million of sales to customers in Africa, \$32.9 million of sales to customers in the Middle East, \$52.7 million of sales to customers in Latin American countries and \$30.1 million of sales to customers in the Commonwealth of Independent States, or former Soviet Union (CIS). The majority of the Company's foreign sales are denominated in U.S. dollars. For the years ended December 31, 2008, 2007 and 2006, international sales comprised 60%, 62% and 68%, respectively, of total net revenues. In recent years, the CIS and certain Latin American countries have experienced economic problems and uncertainties. However, given the recent market downturn, more countries and areas of the world have also begun to experience economic problems and uncertainties. To the extent that world events or economic conditions negatively affect the Company's future sales to customers in these and other regions of the world or the collectibility of the Company's existing receivables, the Company's future results of operations, liquidity, and financial condition would be adversely affected.

*Stock-Based Compensation.* The Company accounts for stock based compensation under the recognition provisions of SFAS 123R, "Share-Based Payment." 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).

*Recent Accounting Pronouncements.* In October 2008, the Financial Accounting Standards Board (FASB) issued Staff Position (FSP) FAS No. 157-3, *Determining the Fair Value of a Financial Asset When the Market for That Asset Is Not Active*" (FSP 157-3). FSP 157-3 was effective on issuance and provided further guidance and clarity to SFAS 157 as it specifically relates to assets with inactive markets. The literature also amends some examples in SFAS 157 to better illustrate the determination of fair value in these assets. The adoption of FSP 157-3 did not have a material impact on the Company's financial position, results of operations or cash flows.

In September 2008, the FASB issued EITF No. 07-5, *"Determining Whether an Instrument (or Embedded Feature) is Indexed to a Entity's Own Stock"* (EITF 07-5). EITF 07-5 re-evaluates the scope exceptions in SFAS 133 for purposes of determining if an instrument or embedded feature is considered indexed to its own stock and thus qualifies for a scope exception. The provisions for EITF 07-5 are effective for fiscal years beginning after December 15, 2008 with earlier adoption prohibited. The Company will adopt EITF 07-5 upon its effective date. The Company does not anticipate the adoption of EITF 07-5 will have a material impact to its financial position, results of operation or cash flows.

In September 2008, the FASB issued FSP EITF 03-6-1, *"Determining Whether Instruments Granted in Share-Based Payment Transactions Are Participating Securities"* (FSP EITF 03-6-1), which is effective for fiscal years beginning after December 15, 2008. This FSP would require unvested share-based payment awards containing non-forfeitable rights to dividends or dividend equivalents (whether paid or unpaid) to be included in the computation of basic earnings per share according to the two-class method. The Company determined that the adoption of FSP EITF 03-6-1 will not have a material impact on its earnings per share computation.

In March 2008, the FASB issued SFAS No. 161, *"Disclosures about Derivative Instruments and Hedging Activities."* (SFAS 161). SFAS 161 provides more guidance on disclosure criteria and requires more enhanced disclosures about a company's derivative and hedging activities. The provisions for SFAS 161 are effective for fiscal years beginning after November 15, 2008 with earlier adoption allowed. The Company will adopt SFAS 161 upon its effective date. The Company does not anticipate the adoption of SFAS 161 will have a material impact on the Company's financial position, results of operations or cash flows.

In December 2007, the FASB issued SFAS No. 141(R), *"Business Combinations"* (SFAS 141(R)). The new standard will significantly change the financial accounting and reporting of business combination transactions in the consolidated financial statements. It will require an acquirer to recognize, at the acquisition date, the assets acquired, the liabilities assumed, and any non-controlling interest in the acquiree at their full fair values as of that date. In a business combination achieved in stages (step acquisitions), the acquirer will be required to remeasure its previously held equity interest in the acquiree at its acquisition-date fair value and recognize the resulting gain or loss in earnings. The acquisition-related transaction and restructuring costs will no longer be included as part of the capitalized cost of the acquired entity but will be required to be accounted for separately in accordance with applicable GAAP in the U.S. SFAS 141(R) applies prospectively to business combinations for which the acquisition date is on or after January 1, 2009.

In February 2007, the FASB issued SFAS No. 159, “*The Fair Value Option for Financial Assets and Financial Liabilities*” (SFAS 159). SFAS 159 allows companies the option to report certain financial assets and liabilities at fair value, establishes presentation and disclosure requirements and requires additional disclosure surrounding the valuation of the financial assets and liabilities presented at fair value on the balance sheet. The provisions of SFAS 159 became effective for fiscal years beginning after November 15, 2007. The Company did not elect the fair value option for any of its financial assets or liabilities, and therefore, the adoption of SFAS 159 had no impact on the Company’s consolidated financial position, results of operations or cash flows.

*Reclassifications.* During 2008, the Company determined that its engineering expenses relating to product enhancements are more appropriately reflected as combined with the engineering expenses associated with its research and development activities. These engineering expenses related to product enhancements had been previously classified within cost of products. The Company’s previously reported cost of products and research, development and engineering expenses for the fiscal years ended December 31, 2007 and 2006 have been reclassified to conform to the current year’s presentation. This reclassification (a total of \$3.7 million and \$5.1 million, respectively, for the fiscal years ended December 31, 2007 and 2006) had no impact on income from operations or net income.

## **(2) ARAM Acquisition**

In July 2008, the Company signed a share purchase agreement to acquire all of the outstanding shares of ARAM Systems Ltd., a Canadian-based provider of cable-based land seismic recording systems, and its affiliated company, Canadian Seismic Rentals Inc. (sometimes collectively referred to herein as “ARAM”), from their shareholders (“the Sellers”). Founded in 1971, ARAM designs, manufactures, sells and leases land seismic data acquisition systems, specializing in analog cabled systems. On September 17, 2008, the Company, ARAM and the Sellers entered into an Amended and Restated Share Purchase Agreement (the “Amended Purchase Agreement”), which amended the terms of the original share purchase agreement executed in July 2008. On September 18, 2008, the Company, through its acquisition subsidiary, 3226509 Nova Scotia Company (“ION Sub”), completed the acquisition of the outstanding shares of ARAM in accordance with the terms of the Amended Purchase Agreement.

In exchange for the shares of ARAM, ION Sub (i) paid the Sellers aggregate cash consideration of \$236 million (which amount was net of certain purchase price adjustments made at the closing), (ii) issued to one of the Sellers 3,629,211 shares of ION’s common stock and (iii) issued to one of the Sellers an unsecured senior promissory note in the original principal amount of \$35.0 million (the “Senior Seller Note”) and an unsecured subordinated promissory note in the original principal amount of \$10.0 million (the “Subordinated Seller Note”).

In connection with the acquisition of ARAM, in July 2008, the Company, ION International S.à r.l. (“ION Sàrl”) and certain of the Company’s domestic and other foreign subsidiaries (as guarantors) entered into a \$100 million amended and restated revolving credit facility under the terms of an Amended and Restated Credit Agreement dated July 3, 2008, as amended to date, (the “Credit Agreement”), with HSBC Bank USA, N.A., as administrative agent, joint lead arranger and joint bookrunner, ABN AMRO Incorporated, as joint lead arranger and joint bookrunner, CitiBank, N.A., as syndication agent, and the lenders party thereto. On September 17, 2008, the Company, ION Sàrl and certain of the Company’s domestic and other foreign subsidiary guarantors amended the terms of the Credit Agreement by entering into a first amendment to the Credit Agreement, which added a new \$125.0 million term loan sub-facility. In December 2008, the Company, ION Sàrl and certain of the Company’s domestic and other foreign subsidiary guarantors entered into two additional amendments to the Credit Agreement that further modified its terms. The commercial banking credit facility, as amended to the date of this filing, is referred to as the “Amended Credit Facility.” See Note 11 — “*Notes Payable, Long-term Debt and Lease Obligations*” below.

The Company financed the cash portion of the purchase price for ARAM with (i) \$72.0 million of revolving line of credit borrowings and \$125 million of five-year term loan indebtedness borrowed under its amended and restated credit facility (the “Amended Credit Facility”) and (ii) \$40.0 million in gross proceeds evidenced by a Senior Increasing Rate Note that it issued to Jefferies Finance CP Funding LLC at the completion of the ARAM acquisition. For further discussion regarding the Amended Credit Facility and the Bridge Loan Agreement, see Note 11 — “*Notes Payable, Long-term Debt and Lease Obligations*” below.

The terms of the Amended Purchase Agreement required the Company to deposit \$35.0 million cash (representing a portion of the cash purchase price for the acquisition) into escrow on a date after closing to secure the parties’ obligations to each other for indemnification liabilities and post-closing purchase price adjustments. Additionally, the terms of the Senior Seller Note provided that when the Senior Seller Note was repaid, proceeds from that repayment were to be applied to fund the escrow



account. The Company also entered into guarantees dated September 18, 2008 to guarantee the obligations of ION Sub under the Senior Seller Note and the Subordinated Seller Note.

The Company had expected to repay the indebtedness under the Senior Increasing Rate Note, the Senior Seller Note and the Subordinated Seller Note and pay down \$72.0 million in revolving credit indebtedness under its Amended Credit Facility by issuing additional long-term debt before the end of 2008. In that regard, the Company had entered into a commitment letter dated September 18, 2008 (the "Commitment Letter"), with Jefferies Funding LLC ("Jefferies Funding"), pursuant to which Jefferies Funding agreed, subject to the terms and upon satisfaction of the conditions contained in the Commitment Letter, to act in the capacities of sole advisor, sole administrative agent, sole collateral agent (if applicable), sole book-runner, sole lead arranger and sole syndication agent in connection with a proposed US\$150.0 million senior bridge loan facility. This proposed senior bridge loan facility was to be drawn upon in the event that certain other long-term indebtedness that the Company would attempt to raise, including high-yield unsecured notes, was not successful. The Commitment Letter was to terminate by its terms on December 31, 2008.

On November 14, 2008, the Company issued a press release announcing its intention to offer and sell, subject to market and other conditions, \$175.0 million aggregate principal amount of unsecured senior notes due 2013 in transactions exempt from registration under the Securities Act of 1933 (including pursuant to Rule 144A under the Securities Act). However, prevailing credit market conditions prevented the Company from successfully completing any issuance of the senior notes. In December 2008, marketing efforts for the senior notes offering ceased. In December 2008, the Company repaid the \$72.0 million revolving credit indebtedness under the Amended Credit Facility from internally-generated cash. On December 30, 2008, the Company further amended the Amended Credit Facility and refinanced its Senior Increasing Rate Note. See — Note 11 — "*Notes Payable, Long-term Debt and Lease Obligations*" below.

As part of the refinancing transactions that the Company completed on December 30, 2008, the terms of the Senior Seller Note were amended and restated, and new subordination provisions were added, by ION Sub's issuing an Amended and Restated Subordinated Note in replacement of and exchange for the Senior Seller Note. The Amended and Restated Subordinated Note was issued to the same Seller holding the Senior Seller Note, Maison Mazel Ltd. (formerly known as 1236929 Alberta Ltd.) ("Maison Mazel"), wholly-owned by one of the Sellers. The principal amount of the Amended and Restated Subordinated Note remains at \$35.0 million and its maturity date was extended from September 17, 2009 to September 17, 2013. Interest on the outstanding principal amount under the note is payable quarterly. ION also entered into an Amended and Restated Guaranty dated December 30, 2008, evidencing its guaranty obligations with respect to the liabilities of ION Sub under the Amended and Restated Subordinated Note.

Also, in connection with the refinancing transactions, ION, ION Sub, ARAM and Maison Mazel entered into an Assignment Agreement dated as of December 30, 2008, under which ION, ION Sub and ARAM assigned to Maison Mazel their rights to an expected Canadian federal income tax refund (the "Refund Claim"), in exchange for the termination, satisfaction and cancellation by Maison Mazel of the indebtedness under the \$10.0 million Subordinated Seller Note. In addition, the Company's obligations under its guaranty of the Subordinated Seller Note were terminated and extinguished in connection with the assignment of the Refund Claim. However, based upon relevant accounting literature, while legally extinguished, the liability could not be extinguished on the balance sheet as of December 31, 2008 and was subsequently included as short-term debt. The income tax refund is also reflected on the balance sheet (netted against the income taxes payable) at December 31, 2008. As of February 20, 2009, approximately \$7.0 million of the Refund Claim had been received by ARAM and applied against this liability.

ION, ION Sub, ARAM and Maison Mazel also entered into a Release Agreement dated as of December 30, 2008, whereby the parties agreed to:

- terminate the \$35.0 million purchase price escrow arrangements they had agreed to in the Amended Purchase Agreement, and
- release Maison Mazel and the other Sellers from their obligations under the Amended Purchase Agreement to indemnify ION, ION Sub and other ION-related "indemnified persons" for breaches by the Sellers of certain of their representations and warranties contained in the Amended Purchase Agreement.

In addition, the parties agreed to certain procedural changes regarding the timing of and the process for the final purchase price adjustments. It is expected that all of the purchase price adjustments under the Amended Purchase Agreement will be completed during the first half of 2009, shortly following the date that all of the Canadian income tax refund pursuant to the

Refund Claim is received. For further information regarding the additional debt financing, see – Note 11 — “Notes Payable, Long-term Debt and Lease Obligations” below.

The Company’s ability to obtain any financing, including any additional debt financing, whether through the issuance of new debt securities or otherwise, and the terms of any such financing are dependent on, among other things, its financial condition, financial market conditions within the industry, credit ratings and numerous other factors. There can be no assurance that the Company will be able to obtain financing on acceptable terms or within an acceptable time, if at all. If the Company is unable to obtain financing on its terms and within an acceptable time, it could, in addition to other negative effects, have a material adverse effect on the Company’s operations, financial condition, ability to compete or ability to comply with regulatory requirements. If the Company was in default under any of its material indebtedness, such default or defaults, if not rescinded or cured, would have a materially adverse effect on the Company’s operations, financial condition and cash flows.

The Company acquired ARAM for the purpose of advancing the Company’s strategy and market penetration in the land seismic recording system business. The operations of ARAM were combined with those of the Company as of September 19, 2008. The acquisition was accounted for by the purchase method, with the purchase price allocated to the fair value of assets purchased and liabilities assumed. As of December 31, 2008, the purchase price allocation had been finalized and is shown below. The allocation of the purchase price, including related direct costs, for the acquisition is as follows (in thousands):

Fair values of assets and liabilities:	
Net current assets .....	\$ 69,827
Property, plant and equipment .....	24,026
Net other long-term assets .....	2,480
Intangible assets .....	101,800
Goodwill .....	173,836
Deferred tax liability .....	(31,723)
Capital lease obligations .....	<u>(3,453)</u>
Total allocated purchase price .....	336,793
Less non-cash consideration — issuance of common stock .....	(48,958)
Less issuance of seller notes .....	(45,000)
Less cash of acquired business .....	<u>(10,677)</u>
Cash paid for acquisition, net of cash acquired .....	<u>\$ 232,158</u>

The intangible assets of ARAM relate to customer relationships, proprietary technology, trade names and non-compete agreements, which are being amortized over their estimated useful lives ranging from five to eight years. At December 31, 2008, the Company completed its annual impairment test for goodwill, including its intangible assets. As a result of the overall economic crisis, which significantly decreased the current demand for analog acquisition products, especially in North America and Russia, the Company determined that the goodwill associated with the ARAM acquisition and a portion of ARAM’s acquired intangible assets were impaired. See further discussion of goodwill and intangible assets and the impairment of these assets at Notes 8 and 9 of *Notes to Consolidated Financial Statements*.

ION’s results of operations and financial condition as of and for the twelve months ended December 31, 2008 have been affected by the acquisition of ARAM on September 18, 2008, which may affect the comparability of certain of the financial information contained in this Form 10-K. The following summarized unaudited pro forma consolidated income statement information for the years ended December 31, 2008 and 2007, assumes that the ARAM Systems acquisitions had occurred as of the beginning of the period presented. The Company has prepared these unaudited pro forma financial results for comparative purposes only. These unaudited pro forma financial results may not be indicative of the results that would have occurred if the Company had completed the acquisitions as of the beginning of the period presented or the results that will be attained in the future.

	<u>Years ending December 31</u>	
	<u>2008</u>	<u>2007</u>
Pro forma net revenues .....	\$ 741,982	\$ 838,022
Pro forma income (loss) from operations .....	\$ (201,603)	\$ 91,994
Pro forma net income (loss) .....	\$ (302,890)	\$ 42,931
Pro forma basic net income (loss) per common share .	\$ (3.08)	\$ 0.50
Pro forma diluted net income (loss) per common share	\$ (3.08)	\$ 0.46

### (3) Accounts and Notes Receivable

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

	December 31, 2008	December 31, 2007
Accounts receivable, principally trade.....	\$ 156,250	\$ 190,704
Less allowance for doubtful accounts.....	(5,685)	(2,675)
Accounts receivable, net.....	<u>\$ 150,565</u>	<u>\$ 188,029</u>

A summary of notes receivable, accrued interest, and allowance for doubtful notes is as follows (in thousands):

	December 31, 2008	December 31, 2007
Notes receivable and accrued interest.....	\$ 16,103	\$ 8,805
Less allowance for doubtful notes.....	—	(3,351)
Notes receivable, net.....	16,103	5,454
Less current portion notes receivable, net.....	<u>11,665</u>	<u>5,454</u>
Long-term notes receivable.....	<u>\$ 4,438</u>	<u>\$ —</u>

The activity in the allowance for doubtful notes receivable is as follows (in thousands):

	<u>Years Ended December 31,</u>		
	<u>2008</u>	<u>2007</u>	<u>2006</u>
Balance at beginning of period.....	\$ 3,351	\$ 4,530	\$ 4,530
Write-offs charged against the allowance.....	(3,351)	(1,179)	—
Balance at end of period.....	<u>\$ —</u>	<u>\$ 3,351</u>	<u>\$ 4,530</u>

#### (4) Inventories

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

	December 31, 2008	December 31, 2007
Raw materials and subassemblies.....	\$ 104,862	\$ 70,870
Work-in-process.....	20,698	13,681
Finished goods.....	161,065	55,945
Reserve for excess and obsolete inventories.....	(24,106)	(11,535)
Total.....	<u>\$ 262,519</u>	<u>\$ 128,961</u>

The Company provides for estimated obsolescence or excess inventory equal to the difference between the cost of inventory and its estimated market value based upon assumptions about future demand for the Company's products and market conditions. For the years ended December 31, 2008, 2007 and 2006, the Company recorded inventory obsolescence and excess inventory charges of approximately \$14.0 million, \$5.3 million, and \$1.5 million, respectively. The increase in the Company's reserves for excess and obsolete inventories primarily relates to its analog land acquisition systems. As a result of integration of ARAM into the Land Imaging Systems segment, the Company evaluated and determined certain of its mature analog product's market values were lower than the current book value. As a result, the Company wrote down the inventory to its expected market value, which resulted in a charge of approximately \$10.1 million.

#### (5) Supplemental Cash Flow Information and Non-Cash Activity

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

	<u>Years Ended December 31,</u>		
	<u>2008</u>	<u>2007</u>	<u>2006</u>
Net cash paid during the period for:			
Interest.....	\$ 5,251	\$ 3,370	\$ 2,047
Income taxes.....	14,894	7,470	5,314

In September 2008, the Company acquired all of the share capital of ARAM. As part of the consideration for this acquisition, the Company issued to one of the Sellers (i) 3,629,211 shares of the Company's common stock valued at \$49.0 million and (ii) the Senior Seller Note and the Subordinated Seller Note in the aggregate original principal amount of \$45.0 million. See further discussion of this acquisition at Note 2 — "ARAM Acquisition" above.

In November 2007, approximately \$52.8 million of the Company's \$60.0 million 5.5% convertible senior notes was converted. This resulted in a non-cash reclassification from long-term debt to stockholders' equity as the Company issued approximately 12.2 million shares. In July 2008, approximately \$4.0 million of the Company's \$7.2 million 5.5% convertible senior notes was converted. This resulted in a non-cash reclassification from long-term debt to stockholders' equity as the Company issued approximately 0.9 million shares. See further discussion of these convertible senior notes at Note 11 — "Notes Payable, Long-term Debt and Lease Obligations" above.

In 2008, 2007 and 2006, the Company purchased \$5.9 million, \$6.0 million and \$9.8 million, respectively, of computer equipment, which were financed through capital leases.

## (6) Property, Plant and Equipment

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

	December 31, 2008	December 31, 2007
Land .....	\$ 25	\$ 25
Buildings .....	15,697	13,620
Machinery and equipment .....	103,377	90,223
Lease and rental equipment .....	18,329	2,490
Furniture and fixtures .....	4,834	3,994
Other .....	5,722	1,882
Total .....	147,984	112,234
Less accumulated depreciation .....	(88,855)	(75,283)
Property, plant and equipment, net .....	<u>\$ 59,129</u>	<u>\$ 36,951</u>

Total depreciation expense for the years ended December 31, 2008, 2007 and 2006 was \$19.2 million, \$16.4 million and \$13.4 million, respectively. At December 31, 2008, a building of \$6.7 million at cost, less accumulated depreciation of \$4.3 million is continuing to be depreciated over its useful life, pursuant to a ten-year non-cancelable lease agreement (see Note 11 of *Notes to Consolidated Financial Statements*).

## (7) Investments

*Equity Method Investment.* In June 2007, the Company entered into a joint participation agreement with Hydro Technology Ventures ("HTV") and Reservoir Innovation AS ("Reservoir"). HTV is the venture capital arm of Hydro Oil & Energy, a subsidiary of Norsk Hydro ASA, an energy and mining company. Reservoir is a privately held company based in Bergen, Norway, that develops and commercializes breakthrough technologies for the exploration, development, and production of offshore hydrocarbon reservoirs. Each party to the joint venture has operational control comparable to its percentage ownership. Under the terms of the agreement, the Company contributed (licensed) certain of its technology to the joint venture and agreed to sell certain products and to provide temporary employee support, on a reimbursement basis, to the joint venture. The joint venture commenced operations in 2007 and the Company has accounted for its investment in the joint venture under APB No. 18, "The Equity Method of Accounting for Investments in Common Stock."

The Company's investment in the joint venture is comprised of \$0 book basis at December 31, 2008 and 2007. Any difference between the amount of the Company's investment and the amount of the underlying equity in net assets of the joint venture will be amortized over the expected life of the contributed assets. The Company's investment in the joint venture is not material to its condensed consolidated financial statements, and therefore summarized financial information for the joint venture is not presented.

*Cost Method Investment.* In December 2004, the Company sold all of the capital stock of Applied MEMS, a wholly-owned subsidiary, to Colibrys Ltd. (Colibrys), a privately-held firm based in Switzerland. Colibrys manufactures micro-electro-mechanical-systems (MEMS) accelerometers used in the Company's VectorSeis digital, full-wave seismic sensors, as well as products for applications that include test and measurement, earthquake and structural monitoring, and defense. In exchange for

the stock of Applied MEMS, the Company received shares of Colibrys equal to approximately 10% of the outstanding equity of Colibrys (valued at \$3.5 million), and the right to designate one member of the board of directors of Colibrys. Since 2004, the Company has made additional cash contributions of \$1.0 million. The investment is accounted for under the cost method.

To protect the Company's intellectual property rights, the Company retained ownership of its MEMS intellectual property, and has licensed that intellectual property to Colibrys on a royalty-free basis. Additionally, the Company received preferential rights to Colibrys' MEMS technology for seismic applications involving natural resource extraction. The Company also entered into a five-year supply agreement with Colibrys and Applied MEMS, which provides for them to supply the Company with MEMS accelerometers on an exclusive basis in the Company's markets at agreed prices that are consistent with market prices.

## (8) Goodwill

On December 31, 2008, the Company completed the annual review of the carrying value of goodwill in the Land Imaging Systems, ARAM Systems, Marine Imaging Systems, Data Management Solutions and ION Solutions reporting units. For purposes of goodwill, ARAM Systems is considered a separate reporting unit since it was acquired late in the year and integration into Land Imaging Systems was not fully completed at year-end. The Company determined during the fourth quarter of fiscal 2008 that the continued market and economic decline, the resulting decline in the North American and Russian land systems market, and the uncertainty of future revenues, income and related cash flows denoted that impairments had occurred within its Land Imaging Systems, ARAM Systems and ION Solutions reporting units. As a result of these evaluations, the Company determined the goodwill of these reporting units was fully impaired and recorded a goodwill impairment charge of \$242.2 million at December 31, 2008.

The following is a summary of the changes in the carrying amount of goodwill for the years ended December 31, 2008 and 2007 (in thousands):

	<u>Land Imaging Systems</u>	<u>Marine Imaging Systems</u>	<u>Data Management Solutions</u>	<u>ION Solutions Division</u>	<u>Total</u>
Balance at January 1, 2007.....	\$ 3,478	\$ 26,984	\$ 31,976	\$ 93,653	\$ 156,091
Impact of acquisition net operating losses.....	—	—	(345)	(3,248)	(3,593)
Impact of foreign currency translation adjustments .....	—	—	647	—	647
Balance at December 31, 2007.....	3,478	26,984	32,278	90,405	153,145
Goodwill acquired during the year.....	173,836	—	—	—	173,836
Impact of acquisition net operating losses.....	—	—	(730)	(3,496)	(4,226)
Impact of foreign currency translation adjustments .....	(22,064)	—	(8,760)	—	(30,824)
Impairment losses.....	(155,250)	—	—	(86,909)	(242,159)
Balance at December 31, 2008.....	<u>\$ —</u>	<u>\$ 26,984</u>	<u>\$ 22,788</u>	<u>\$ —</u>	<u>\$ 49,772</u>

During fiscal years 2008 and 2007, the Company made adjustments to goodwill related to the tax affected portion of the net operating losses (NOLs) utilized with respect to the Company's previous GXT and Concept Systems acquisitions in 2004. These adjustments resulted in reductions of approximately \$4.2 million and \$3.6 million, respectively, to the Company's goodwill balances.

## (9) Intangible Assets

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

	<u>December 31, 2008</u>			
	<u>Gross Amount</u>	<u>Accumulated Amortization</u>	<u>Impairments</u>	<u>Net</u>
Proprietary technology.....	\$ 80,755	\$ (11,997)	\$ —	\$ 68,758
Customer relationships .....	50,641	(15,065)	(5,130)	30,446
Trade names.....	14,516	(4,260)	(4,207)	6,049
Patents.....	3,689	(2,735)	—	954
Intellectual property rights.....	3,050	(2,514)	—	536
Non-compete agreements .....	1,575	(89)	(786)	700
Total.....	<u>\$ 154,226</u>	<u>\$ (36,660)</u>	<u>\$ (10,123)</u>	<u>\$ 107,443</u>

As a result of the overall economic and financial crisis, which have significantly decreased the current demand for the Company's land analog acquisition products, especially within North America and Russia, the Company determined that certain of its intangible assets (customer relationships, trade name and non-compete agreements) related to its ARAM acquisition were impaired. The Company recorded an impairment charge of \$10.1 million in the fourth quarter of 2008.

	<b>December 31, 2007</b>		
	<b>Gross Amount</b>	<b>Accumulated Amortization</b>	<b>Net</b>
Proprietary technology.....	\$ 14,242	\$ (7,770)	\$ 6,472
Customer relationships.....	42,203	(11,516)	30,687
Trade names.....	4,171	(2,980)	1,191
Patents.....	3,689	(2,505)	1,184
Intellectual property rights.....	3,050	(1,677)	1,373
Total.....	<u>\$ 67,355</u>	<u>\$ (26,448)</u>	<u>\$ 40,907</u>

Total amortization expense for intangible assets for the years ended December 31, 2008, 2007 and 2006 was \$11.2 million, \$8.3 million, and \$6.7 million, respectively. A summary of the estimated amortization expense for the next five years is as follows (in thousands):

<b>Years Ended December 31,</b>		
2009 .....		\$ 17,099
2010 .....		\$ 15,983
2011 .....		\$ 14,783
2012 .....		\$ 13,432
2013 .....		\$ 13,413

#### (10) Accrued Expenses

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

	<b>December 31, 2008</b>	<b>December 31, 2007</b>
Compensation, including compensation-related taxes and commissions.....	\$ 24,446	\$ 27,142
Product warranty.....	10,526	13,439
Accrued taxes (primarily income taxes) .....	6,143	9,430
Accrued multi-client data library acquisition costs.....	17,654	8,582
Other .....	18,277	8,318
Total accrued expenses .....	<u>\$ 77,046</u>	<u>\$ 66,911</u>

The Company generally warrants that all 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 cost of sales at time of sale, which is when estimated future expenditures associated with such contingencies become probable and reasonably estimated. 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). A summary of warranty activity is as follows (in thousands):

	<b>Years Ended December 31,</b>		
	<b>2008</b>	<b>2007</b>	<b>2006</b>
Balance at beginning of period .....	\$ 13,439	\$ 6,255	\$ 3,896
Opening balance for accruals for warranties for acquired entity .....	845	—	—
Accruals for warranties issued during the period.....	4,624	13,074	6,784
Settlements made (in cash or in kind) during the period.....	(8,382)	(5,890)	(4,425)
Balance at end of period .....	<u>\$ 10,526</u>	<u>\$ 13,439</u>	<u>\$ 6,255</u>

#### (11) Notes Payable, Long-term Debt and Lease Obligations

<b>Obligations</b>	<b>December 31, 2008</b>	<b>December 31, 2007</b>
\$100.0 million revolving line of credit .....	\$ 66,000	\$ —
Term loan facility .....	120,313	—
Bridge loan .....	40,816	—
Amended and restated subordinated seller note .....	35,000	—

Subordinated seller note .....	10,000	—
Convertible senior notes .....	—	7,240
Facility lease obligation.....	4,610	4,975
Equipment capital leases and other notes payable.....	<u>15,170</u>	<u>12,498</u>
Total .....	291,909	24,713
Current portion of notes payable, long-term debt and lease obligations.....	<u>(38,399)</u>	<u>(14,871)</u>
Non-current portion of notes payable, long-term debt and lease obligations .....	<u>\$ 253,510</u>	<u>\$ 9,842</u>

*Revolving Line of Credit and Term Facilities.* In July 2008, the Company, ION International S.à r.l. (“ION Sàrl), and certain of the Company’s domestic and other foreign subsidiaries (as guarantors) entered into a \$100.0 million amended and restated revolving credit facility under the terms of the Credit Agreement. This amended and restated revolving credit facility provided the Company with additional flexibility for the Company’s international capital needs by not only permitting borrowings by ION Sàrl under the facility but also providing the Company and ION Sàrl the ability to borrow in alternative currencies. Under the Credit Agreement, \$60.0 million (or its equivalent in foreign currencies) is available for borrowings by ION Sàrl and \$75.0 million is available for borrowings by the Company; however, the total availability under the revolving credit facility is \$100.0 million and total outstanding revolving credit borrowings under this facility may not exceed this amount. The Credit Agreement includes provisions for an accordion feature, under which the total lenders’ commitments under the Credit Agreement could be increased by up to \$50.0 million, subject to the satisfaction of certain conditions.

On September 17, 2008, the Company, ION Sàrl and certain of the Company’s domestic and other foreign subsidiary guarantors amended the terms of the Credit Agreement by entering into a first amendment to the Credit Agreement, which added a new \$125.0 million term loan sub-facility. The Company borrowed \$125.0 million in term loan indebtedness and \$72.0 million under the revolving credit sub-facility, to fund a portion of the cash consideration for the ARAM acquisition. See Note 2 — “*ARAM Acquisition*” above.

In December 2008, the Company, ION Sàrl and certain of the Company’s domestic and other foreign subsidiary guarantors entered into two additional amendments to the Credit Agreement that further modified its terms. The amendments were entered into principally to permit the refinancing of certain indebtedness and related financial arrangements that the Company had entered into in September 2008 in connection with the acquisition of ARAM. The amendments were also entered into to permit the Company to implement a stockholder rights plan without violating the terms of the Company’s Amended Credit Facility, and to permit the Company to obtain certain sale/leaseback financing in order to finance leases of land seismic data acquisition systems and related equipment to the Company’s customers.

The interest rate on borrowings under the Amended Credit Facility is, at the Company’s option, (i) an alternate base rate (either the prime rate of HSBC Bank USA, N.A., or a federal funds effective rate plus 0.50%, plus an applicable interest margin) or (ii) for eurodollar borrowings and borrowings in euros, pounds sterling or Canadian dollars, a LIBOR-based rate, plus an applicable interest margin. The amount of the applicable interest margin is determined by reference to a leverage ratio of total funded debt to consolidated EBITDA for the four most recent trailing fiscal quarters. The interest rate margins range from 2.875% to 4.0% for alternate base rate borrowings, and from 3.875% to 5.0% for eurodollar borrowings. As of December 31, 2008, \$120.3 million in term loan indebtedness under the Amended Credit Facility accrued interest using the LIBOR-based interest rate of 6.0% per annum, while \$66.0 million in total revolving credit indebtedness under the Amended Credit Facility that accrued interest using the alternate-based interest rate of 6.88% per annum. The average effective interest rate for the quarter ended December 31, 2008 under the LIBOR-based and prime-based rate was 5.7%.

The Credit Agreement contains covenants that restrict the Company, subject to certain exceptions, from:

- Incurring additional indebtedness (including capital lease obligations), granting or incurring additional liens on the Company’s properties, pledging shares of the Company’s subsidiaries, entering into certain merger or other similar transactions, entering into transactions with affiliates, making certain sales or other dispositions of assets, making certain investments, acquiring other businesses and entering into certain sale-leaseback transactions with respect to certain of the Company’s properties;
- Paying cash dividends on the Company’s common stock and repurchasing and acquiring shares of the Company’s common stock unless (i) there is no event of default under the Amended Credit Facility and (ii) the amount of cash used for cash dividends, repurchases and acquisitions does not, in the aggregate, exceed an amount equal to the excess of 30% of ION’s domestic consolidated net income for the Company’s most recently completed fiscal year over \$15.0 million.

The Amended Credit Facility requires the Company to be in compliance with certain financial covenants, including requirements for the Company and its domestic subsidiaries to:

- maintain a minimum fixed charge coverage ratio in an amount equal to 1.50 to 1 for each fiscal quarter beginning in 2009;
- not exceed a maximum leverage ratio of 2.25 to 1 for each fiscal quarter beginning in 2009; and
- maintain a minimum tangible net worth of at least 80% of the Company's tangible net worth as of September 18, 2008 (the date that the Company completed its acquisition of ARAM), plus 50% of the Company's consolidated net income for each quarter thereafter, and 80% of the proceeds from any mandatorily convertible notes and preferred and common stock issuances for each quarter thereafter.

At December 31, 2008, the Company was in compliance with all covenants under the Amended Credit Facility. The Company believes that, based on its 2009 operating plan, the Company will remain in compliance with its financial covenants during 2009. As discussed in Part I, Item 1A, "Risk Factors" section of this Annual Report on Form 10-K, however, even though not considered likely, there are scenarios under which the Company could fall out of compliance with the financial covenants contained in the Amended Credit Facility. The Company's failure to comply with such covenants could result in an event of default that, if not cured or waived, could have a material adverse effect on its financial condition, results of operations, and debt service capability. If the Company is not able to satisfy all of the financial covenants, the Company would need to seek to amend, or seek one or more waivers of, the covenants under the Amended Credit Facility. There can be no assurance that the Company would be able to obtain any such waivers or amendments, in which case the Company would likely seek to obtain new secured debt, unsecured debt or equity financing. However, there can be no assurance that such debt or equity financing would be available on terms acceptable to the Company or at all. In the event that the Company would need to amend the Amended Credit Facility or obtain new financing, the Company would likely incur substantial up-front fees and significantly higher interest costs, and other terms in the amendment would likely be significantly less favorable than those currently in the Amended Credit Facility.

The \$125.0 million original principal amount of term loan indebtedness borrowed under the Amended Credit Facility is subject to scheduled quarterly amortization payments of \$4.7 million per quarter until December 31, 2010. On that date, the quarterly principal amortization increases to \$6.3 million per quarter until December 31, 2012, when the quarterly principal amortization amount increases to \$9.4 million for each quarter until maturity on September 17, 2013. The term loan indebtedness matures on September 17, 2013, but the administrative agent under the Amended Credit Facility may accelerate the maturity date to a date that is six months prior to the maturity date of certain additional debt financing that the Company may incur to refinance certain indebtedness incurred in connection with the ARAM acquisition, by giving the Company written notice of such acceleration between September 17, 2012 and October 17, 2012.

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

Revolving credit borrowings under the Amended Credit Facility are available to fund the Company's working capital needs, to finance acquisitions, investments and share repurchases and for general corporate purposes. In addition, the Amended Credit Facility includes a \$35.0 million sub-limit for the issuance of documentary and stand-by letters of credit, of which \$1.2 million was outstanding at December 31, 2008. Borrowings under the Amended Credit Facility may be prepaid without penalty. As of December 31, 2008, \$120.3 million in term loan indebtedness and \$66.0 million in revolving credit indebtedness were outstanding under the Amended Credit Facility. As of February 23, 2009, the Company had available \$0.8 million of additional revolving credit borrowing capacity that can be used only to fund additional letters of credit under the Amended Credit Facility.

Borrowings under the revolving credit sub-facility are not subject to a borrowing base. The Amended Credit Facility includes an accordion feature under which the total commitments under the Credit Agreement could be increased by up to \$50.0 million, subject to the satisfaction of certain conditions.

The Company's obligations under the Amended Credit Facility are guaranteed by certain of the Company's domestic subsidiaries that are parties to the Credit Agreement, and the obligations of ION Sàrl under the Amended Credit Facility are guaranteed by the Company and by certain of its domestic and foreign subsidiaries that are parties to the Credit Agreement. The



Company's obligations and the guarantees of the domestic guarantors are secured by security interests in 100% of the stock of all of the domestic guarantors and 65% of the stock of certain first-tier foreign subsidiaries, and by substantially all of the Company's other assets and those of the Company's domestic guarantors. The obligations of ION Sàrl and the foreign guarantors are secured by security interests in 100% of the stock of the foreign guarantors and the domestic guarantors, and substantially all of the Company's assets and the other assets of the foreign guarantors and the domestic guarantors.

*Bridge Loan.* On December 30, 2008, the Company and certain of its domestic subsidiaries (as guarantors) entered into a Bridge Loan Agreement with Jefferies Finance LLC ("Jefferies") as administrative agent, sole bookrunner, sole lead arranger and lender. Under the Bridge Loan Agreement, the Company borrowed \$40.8 million (the "Bridge Loan") to refinance outstanding short-term indebtedness (that had been scheduled to mature on December 31, 2008), which the Company had borrowed from Jefferies Finance CP Funding LLC, an affiliate of Jefferies, under the Senior Increasing Rate Note, in connection with the completion of the ARAM acquisition in September 2008.

The maturity date of the Bridge Loan is January 31, 2010. The Bridge Loan Agreement provides that any lender can assign its interests under the Bridge Loan or sell participations in the Bridge Loan, provided that certain conditions are first met.

Under the Bridge Loan Agreement, the Company paid Jefferies as administrative agent a non-refundable upfront fee of \$2.0 million, representing 5.0% of the principal amount of the Bridge Loan. In addition, the Company agreed in the Bridge Loan Agreement to pay the lenders thereunder (i) on June 30, 2009, a non-refundable initial duration fee in an amount equal to 3.0% of the total principal amount of the Bridge Loan outstanding (if any) on such date, and (ii) on September 30, 2009, a non-refundable additional duration fee in an amount equal to 2.0% of the total principal amount of the Bridge Loan outstanding (if any) on such date. Interest on the Bridge Loan is payable monthly on the last day of each month that the Bridge Loan remains outstanding, and at the maturity date of the Bridge Loan. The Bridge Loan bears interest at a rate equal to the sum of (i) the one-month LIBO rate plus (ii) 13.25% per annum; the LIBO rate is defined as the London interbank rate appearing on the Reuters BBA Libor Rates Page 3750 or 1.75%, whichever is greater. If the LIBO rate cannot then be determined or otherwise is unavailable, the interest rate will be equal to the sum of (x) the "alternate base rate" plus (y) 12.25%; the alternate base rate will be equal to the greatest of the prime rate of (a) HSBC Bank USA, N.A., (b) a federal funds rate plus ½ of 1% and (c) 2.75%. Unless the Bridge Loan is in default, the interest rate on the Bridge Loan shall neither be less than 15.0% nor greater than 17.0% per annum. If the Bridge Loan is in default, default interest will accrue (and be payable on demand) at a rate of 4.0% above the then-current interest rate in effect under the Bridge Loan.

The Bridge Loan can be prepaid at any time without penalty or premium upon three business days' written notice.

The Bridge Loan Agreement contains provisions that will require the Company, upon the occurrence of a "Change of Control" (as that term is defined in the Credit Agreement), to offer to the holder(s) of the Bridge Loan to repay the Bridge Loan at a price equal to 101% of the principal amount thereof, plus all accrued fees and all accrued and unpaid interest to the date of repayment.

The Company's representations and warranties, affirmative covenants, negative covenants and financial covenants and the events of default contained in the Bridge Loan Agreement are substantially the same as those contained in the Credit Agreement.

In connection with the Bridge Loan Agreement, the Company and Jefferies also entered into an agreement to terminate and release the respective obligations of the parties and their respective affiliates under the Commitment Letter and related fee and engagement letter agreements the Company entered into with Jefferies and its affiliates in September 2008.

*Amended and Restated Subordinated Seller Note.* As part of the purchase price for the ARAM acquisition, ION Sub, issued the Senior Seller Note to 1236929 Alberta Ltd., one of the selling shareholders of ARAM. The outstanding principal and accrued interest under the Senior Seller Note was to be due and payable upon the earlier to occur of (x) September 18, 2009 and (y) the date that a cash amount equal to \$35.0 million, plus a specified amount of interest was deposited into an escrow account established for the purpose of funding certain post-closing purchase price adjustments and indemnities related to the acquisition.

On December 30, 2008, in connection with the other refinancing transactions described above, the terms of the Senior Seller Note were amended and restated and subordination provisions were added, by ION Sub's issuing an Amended and Restated Subordinated Promissory Note dated December 30, 2008 ("the Amended and Restated Subordinated Note") to the same selling shareholder of ARAM (which had changed its corporate name to Maison Mazel Ltd.). The principal amount of the Amended and Restated Subordinated Note remained at \$35.0 million and the maturity date was extended from September 17, 2009 to September 17, 2013. The Company also entered into an amended and restated guaranty dated December 30, 2008, whereby the Company guaranteed on a subordinated basis ION Sub's repayment obligations under the Amended and Restated Subordinated

Note. Interest on the outstanding principal amount under the Amended and Restated Subordinated Note accrues at the rate of fifteen percent (15%) per annum, and is payable quarterly, commencing March 31, 2009.

The Amended and Restated Subordinated Seller Note contains covenants that restrict the Company and its subsidiaries from incurring or assuming certain additional indebtedness. The terms of the Amended and Restated Subordinated Note provide that the particular covenant contained in the Credit Agreement (or in any successor agreement or instrument) that restricts the Company's ability to incur additional indebtedness will be incorporated into the Amended and Restated Subordinated Note. However, Maison Mazel or any other holder of the Amended and Restated Subordinated Note will not have a separate right to consent to or approve any amendment or waiver of the covenant as contained in the Amended Credit Facility.

In addition, ION Sub agreed that if it incurs indebtedness under any financing that:

- qualifies as "Long Term Junior Financing" (as defined in the Credit Agreement),
- results from a refinancing or replacement of the Amended Credit Facility such that the aggregate principal indebtedness (including revolving commitments) thereunder would be in excess of \$275.0 million, or
- qualifies as unsecured indebtedness for borrowed money that is evidenced by notes or debentures, has a maturity date of at least five years after the date of its issuance and results in total gross cash proceeds to the Company of not less than \$45.0 million (\$40.0 million after the Bridge Loan has been paid in full),

then ION Sub will repay in full from the total proceeds from such financing the then-outstanding principal of and interest on the Amended and Restated Subordinated Note. However, in those circumstances, any indebtedness outstanding under the Bridge Loan must also be paid in full, either prior to or contemporaneously with the repayment of the Amended and Restated Subordinated Note.

The indebtedness under the Amended and Restated Subordinated Note is subordinated to the prior payment in full of the Company's "Senior Obligations," which is defined in the Amended and Restated Subordinated Note as the principal, premium (if any), interest and other amounts that become due in connection with:

- the Company's obligations under the Amended Credit Facility,
- the Company's obligations under the Bridge Loan Agreement,
- the Company's liabilities with respect to capital leases and obligations under its facility sale-leaseback facility that qualify as a "Sale/Leaseback Agreement" (as that term is defined in the Credit Agreement),
- guarantees of the indebtedness described above, and
- debentures, notes or other evidences of indebtedness issued in exchange for, or in the refinancing of, the Senior Obligations described above, or any indebtedness arising from the payment and satisfaction of any Senior Obligations by a guarantor.

*Subordinated Seller Note.* As part of the purchase price for the ARAM acquisition, ION Sub issued to one of the Sellers the \$10.0 million original principal amount unsecured Subordinated Seller Note. In connection with the refinancing transactions in December 2008, the Company's obligations and those of ION Sub under the Subordinated Seller Note and related guaranty were terminated and extinguished in exchange for the Company's assignment to the Seller of the Company's rights to the Refund Claim. However, based upon relevant accounting literature, while legally extinguished, the liability could not be extinguished on the balance sheet as of December 31, 2008 and was subsequently included as short-term debt. The income tax refund is also reflected on the balance sheet (netted against the income taxes payable) at December 31, 2008. As of February 20, 2009, approximately \$7.0 million of the Refund Claim had been received and used to repay the Subordinated Seller Note.

*Convertible Senior Notes.* In July 2008, the holders of \$4.0 million in aggregate principal amount of the Company's outstanding convertible senior notes elected to convert their notes into 925,926 shares of common stock. As a result of this transaction, no gain or loss was recorded for this transaction, and all amounts related to the convertible debt were converted into equity as of the conversion date and \$3.2 million in principal amount of indebtedness under the convertible senior notes matured on December 15, 2008.

*Facility Lease Obligation.* In 2001, the Company sold its facilities, located in Stafford, Texas, for \$21.0 million. 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 \$4.6 million was outstanding at December 31, 2008. 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 a series of equipment loans that are due in installments for the purpose of financing the purchase of computer equipment, in the form of capital leases expiring in various years through 2012. Interest charged under these loans range from 5.9% to 8.3% and the leases are collateralized by liens on the computer equipment. The assets and liabilities under these capital leases are recorded at the lower of the present value of the minimum lease payments or the fair value of the assets. 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 the notes payable, long-term debt and equipment capital lease obligations are as follows (in thousands):

<u>Years Ended December 31,</u>	<u>Notes Payable and Long-Term Debt</u>	<u>Capital Lease Obligations</u>
2009 .....	\$ 31,353	\$ 7,666
2010 .....	61,650	3,955
2011 .....	25,610	2,162
2012 .....	28,839	228
2013 .....	129,957	—
2014 and thereafter .....	1,500	—
Total.....	<u>\$278,909</u>	14,011
Imputed interest .....		(1,011)
Net present value of equipment capital lease obligations .....		13,000
Current portion of equipment capital lease obligations .....		7,046
Long-term portion of equipment capital lease obligations.....		<u>\$ 5,954</u>

## **(12) Cumulative Convertible Preferred Stock**

During 2005, the Company entered into an Agreement dated February 15, 2005 with Fletcher International, Ltd. ("Fletcher") (this Agreement, as amended to the date hereof, 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 as the "Series D Preferred Stock." Fletcher remains the sole holder of all of the Company's outstanding shares of Series D Preferred Stock.

Until November 2008, all shares of Series D Preferred Stock had substantially similar terms, except for their conversion prices, which were as follows:

- The conversion price for the Series D-1 Preferred Stock was \$7.869 per share;

- The conversion price for the Series D-2 Preferred Stock was \$16.0429 per share; and
- The conversion price for the Series D-3 Preferred Stock was \$14.7981 per share.

The terms of the Series D Preferred Stock had provided that the shares could be redeemed for cash or in shares of common stock, calculated based upon the prevailing market price of the Company's common stock at the time of redemption. Dividends on the shares of Series D Preferred Stock could be payable, at the Company's election, in cash or in shares of the Company's common stock. To date, all dividends paid on the Series D Preferred Stock have been paid in cash.

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 and elect to either:

- satisfy all future redemption obligations by distributing only cash, or a combination of cash and common stock, or
- reset the conversion prices of all of the outstanding shares of Series D Preferred Stock to the Minimum Price, in which event Fletcher would have no further rights to redeem its shares of Series D Preferred Stock.

In addition, the Fletcher Agreement provided that upon the Company's delivery of the Reset Notice, the Company would thereafter be required to pay all future dividends on shares of Series D Preferred Stock in cash.

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 redemption rights 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. On November 28, 2008, Fletcher delivered a notice to the Company to increase the Maximum Number to 9,669,434 shares, effective February 1, 2009.

The new Maximum Number represents approximately 9.7% of the Company's total outstanding shares of common stock as of February 12, 2009 (calculated in accordance with Rule 13d-3(d)(1) under the Securities Exchange Act of 1934). Prior to adjusting the conversion prices for the Series D Preferred Stock to the Minimum Price, the total outstanding shares of Series D Preferred Stock would have been convertible into 6,489,260 shares of common stock, or approximately 6.5% of the Company's total outstanding shares of common stock as of February 12, 2009.

As a result of these elections and notices:

- Fletcher is no longer permitted to redeem its shares of Series D Preferred Stock,
- the Company is required to pay all future dividends on the Series D Preferred Stock in cash and may not pay such dividends in shares of its common stock, and
- the Maximum Number of shares of common stock into which the shares of Series D Preferred Stock may be converted is 9,669,434 shares.

The conversion prices and number of shares of common stock to be acquired upon conversion are also subject to customary anti-dilution adjustments.

The accounting impact as a result of these elections and notices are as follows:

- Beneficial conversion charge – The reset of the conversion prices triggered a contingent beneficial conversion feature. Following the guidance of EITF 00-27, “*Application of Issue No. 98-5 to Certain Convertible Instruments*,” the Company recorded a beneficial conversion charge of \$68.8 million. This charge was calculated at its intrinsic value at the original commitment date. The total charge was limited to the amount of proceeds allocated to the convertible instruments.
- Classification of preferred stock – The Company originally classified the preferred stock outside of stockholders’ equity on the balance sheet below total liabilities. However, with the termination of the redemption rights, there are no other provisions that could require cash redemption. Therefore, in the fourth quarter of 2008, the Company reclassified the preferred stock to stockholders’ equity.

- Elimination of rights of redemption – The outstanding shares of the Series D-2 Preferred Stock and the Series D-3 Preferred

Stock are subject to the accounting guidance contained in EITF Topic D-109: “*Determining the Nature of a Host Contract Related to a Hybrid Financial Instrument Issued in the Form of a Share under FASB Statement No. 133*” (Topic D-109). Topic D-109 became effective on a prospective basis on July 1, 2007, and the additional guidance and clarification of Topic D-109 applies to transactions occurring after July 1, 2007, including the issuances of the Series D-2 Preferred Stock and the Series D-3 Preferred Stock. Under Topic D-109, the redemption features of the Series D-2 Preferred Stock and the Series D-3 Preferred Stock were embedded derivatives that were required to be bifurcated and accounted for separately at their fair value. The fair value of the redemption features had been classified as a liability on the balance sheet of the Company and, on a quarterly basis, changes in the fair value of these redemption features had been reflected in the income statement below income from operations. However, after the resetting of the conversion prices, Fletcher has no further rights to redeem its shares. Therefore, the redemption obligation was eliminated, resulting in a positive fair value adjustment of \$1.2 million for the year ended December 31, 2008.

### **(13) Stockholders’ Equity and Stock-Based Compensation**

#### ***Stockholder Rights Plan***

In December 2008, the Company’s Board of Directors adopted a stockholder rights plan. The stockholder rights plan was adopted to give the Company’s Board increased power to negotiate in the Company’s best interests and to discourage appropriation of control of the Company at a price that was unfair to its stockholders. The stockholder rights plan involved the distribution of one preferred share purchase “right” as a dividend on each outstanding share of the Company’s common stock to all holders of record on January 9, 2009. Each right entitles the holder to purchase one one-thousandth of a share of the Company’s Series A Junior Participating Preferred Stock at a purchase price of \$21.00 per one one-thousandth of a share of Series A Preferred Stock, subject to adjustment. The rights trade in tandem with the Company’s common stock until, and will become exercisable beginning upon a “distribution date” that will occur shortly following, among other things, the acquisition of 20% or more of the Company’s common stock by an acquiring person. The rights plan and the rights will expire in accordance with their terms of the plan on December 29, 2011.

#### ***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, 2008, there were 7,893,275 shares issued or committed for issuance under outstanding options under the Company’s stock option plans, and 835,407 shares available for future grant and issuance.

On March 13, 2007, the Company’s Board of Directors and on May 27, 2007, the stockholders of the Company approved, the amendment and restatement of such plan as previously in effect, principally to increase by 2,400,000, the total number of shares of common stock of the Company available for issuance under such plan. On February 14, 2008, the Company’s Board of Directors and on May 27, 2008, the stockholders of the Company approved, the amendment and restatement of such plan as previously in effect, principally to increase by 1,000,000 the total number of shares of common stock of the Company available for issuance under such plan.

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. On August 16, 2006, the Compensation Committee of the Board of Directors of the Company approved fixed pre-established quarterly grant dates for all future grants of options.

Transactions under the stock option plans are summarized as follows:

	Option Price per Share	Outstanding	Vested	Available for Grant
January 1, 2006 .....	\$1.73-\$30.00	7,047,127	4,138,458	474,582
Increase in shares authorized .....	—	—	—	1,700,000
Granted .....	7.84-10.89	1,333,500	—	(1,333,500)
Vested .....	—	—	1,269,726	—
Exercised .....	1.73-11.10	(778,921)	(778,921)	—
Cancelled/forfeited .....	1.73-29.63	(777,058)	(293,676)	457,704
Restricted stock granted out of option plans .....	—	—	—	(602,500)
December 31, 2006 .....	1.73-30.00	6,824,648	4,335,587	696,286
Increase in shares authorized .....	—	—	—	2,400,000
Granted .....	13.52-16.03	1,381,200	—	(1,381,200)
Vested .....	—	—	968,250	—
Exercised .....	1.73-12.45	(1,036,794)	(1,036,794)	—
Cancelled/forfeited .....	3.35-30.00	(329,413)	(66,601)	279,544
Restricted stock granted out of option plans .....	—	—	—	(473,708)
Restricted stock cancelled for employee minimum income taxes and returned to the plans .....	—	—	—	90,122
December 31, 2007 .....	1.73-24.63	6,839,641	4,200,442	1,611,044
Increase in shares authorized .....	—	—	—	1,000,000
Granted .....	3.00-16.39	1,886,950	—	(1,886,950)
Vested .....	—	—	913,915	—
Exercised .....	1.73-13.52	(656,166)	(656,166)	—
Cancelled/forfeited .....	3.35-24.63	(587,150)	(308,850)	378,800
Restricted stock granted out of option plans .....	—	—	—	(454,983)
Issuance of inducement stock options in acquisition .....	14.10	410,000	—	—
Restricted stock forfeited and cancelled for employee minimum income taxes and returned to the plans .....	—	—	—	187,496
December 31, 2008 .....	\$1.73-\$16.39	<u>7,893,275</u>	<u>4,149,341</u>	<u>835,407</u>

Stock options outstanding at December 31, 2008 are summarized as follows:

Option Price per Share	Outstanding	Weighted Average Exercise Price of Outstanding Options	Weighted Average Remaining Contract Life	Vested	Weighted Average Exercise Price of Vested Options
\$ 1.73 — \$ 3.00 .....	1,911,584	\$ 2.94	9.1	202,634	\$ 2.41
3.35 — 5.81 .....	451,216	\$ 4.67	3.7	451,216	\$ 4.67
5.94 — 9.01 .....	2,427,975	\$ 6.62	5.0	2,214,350	\$ 6.53
9.08 — 14.03 .....	1,434,850	\$ 10.41	6.8	923,852	\$ 10.24
14.10 — 16.39 .....	<u>1,667,650</u>	\$ 15.15	9.2	<u>357,289</u>	\$ 15.42
Totals .....	<u>7,893,275</u>	\$ 8.11	7.1	<u>4,149,341</u>	\$ 7.72

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

	Number of Shares	Weighted Average Exercise Price	Weighted Average Grant Date Fair Value	Weighted Average Remaining Contractual Life in Years	Aggregate Intrinsic Value (000's)
Total outstanding at January 1, 2008 .....	6,839,641	\$ 9.28		6.6	
Options granted .....	2,296,950	\$ 5.93	\$ 3.02		
Options exercised .....	(656,166)	\$ 7.40			
Options cancelled .....	(308,850)	\$ 15.04			
Options forfeited .....	<u>(278,300)</u>	\$ 12.89			
Total outstanding at December 31, 2008 .....	<u>7,893,275</u>	\$ 8.11		7.1	\$ 949
Options exercisable and vested at December 31, 2008 .....	<u>4,149,341</u>	\$ 7.72		5.3	\$ 214

The total intrinsic value of options exercised during the twelve months ended December 31, 2008, 2007 and 2006 was \$4.8 million, \$13.5 million and \$6.5 million, respectively. Cash received from option exercises under all share-based payment

arrangements for the twelve months ended December 31, 2008 and 2007 was approximately \$6.3 million and \$8.0 million, respectively. The weighted average grant date fair value for stock option awards granted during the twelve months ended December 31, 2008, 2007 and 2006 was \$3.02, \$7.55, and \$4.51 per share, respectively.

***Restricted Stock and Restricted Stock Unit Plans***

The Company has adopted restricted stock plans which provide for the award of up to 300,000 shares of common stock to key officers and employees. In addition, the Company has issued restricted stock and restricted stock units under the Company’s 2004 Long-Term Incentive Plan, 2000 Restricted Stock Plan, 1998 Restricted Stock Plan (which expired in 2008) 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. Except for these restrictions, the grantee of an award of shares of restricted stock has all the rights of a common stockholder, including the right to receive dividends on and the right to vote such shares.

The status of the Company’s restricted stock and restricted stock unit awards for the year ended December 31, 2008 is as follows:

	<u>Number of Shares/Units</u>
Total nonvested at January 1, 2008.....	1,058,477
Granted .....	460,883
Vested .....	(556,130)
Forfeited.....	<u>(86,688)</u>
Total nonvested at December 31, 2008.....	<u>876,542</u>

At December 31, 2008 the intrinsic value of restricted stock and restricted stock unit awards was approximately \$3.0 million. The weighted average grant date fair value for restricted stock and restricted stock unit awards granted during the twelve months ended December 31, 2008, 2007 and 2006 was \$5.79, \$14.97, and \$9.83 per share. The total fair value of shares vested during the twelve months ended December 31, 2008, 2007 and 2006 was \$5.3 million, \$6.5 million, and \$2.6 million, respectively.

***Employee Stock Purchase Plan***

In April 1997, the Company adopted the Employee Stock Purchase Plan (ESPP), which allows all eligible employees to authorize payroll deductions at a rate of 1% to 15% of base compensation for the purchase of the Company’s common stock. The purchase price of the common stock will be 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 January 1 and July 1 of each year. The ESPP is considered a compensatory plan under SFAS 123R. The Company recorded compensation expense of approximately \$0.4 million, \$0.4 million and \$0.3 million during the years ended December 31, 2008, 2007 and 2006, 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 is recognized over the purchase period. There were 109,943, 113,763, and 113,582 shares purchased by employees during the years ended December 31, 2008, 2007 and 2006, respectively. Effective January 1, 2009, the ESPP terminated and was no longer in effect.

***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 an agreement between the Company and the holder. The exercise price per SAR is not to be less than one hundred percent (100%) 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.

In December 2008, the Company granted to three individuals a total of 575,000 SAR awards with a weighted average exercise price of \$6.24. The Company recorded \$0.2 million of share-based compensation expense in 2008 related to employee stock appreciation rights. Pursuant to SFAS 123R, 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 option and SAR award 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		
	2008	2007	2006
Risk-free interest rates .....	1.5% - 3.4%	3.4% - 4.9%	4.3% - 5.2%
Expected lives (in years) .....	4.7 - 5.0	4.5 - 5.0	4.5
Expected dividend yield.....	0%	0%	0%
Expected volatility .....	44.7% - 83.2%	45.0% - 53.3%	47.5% - 52.8%

The computation of expected volatility during the twelve months ended December 31, 2008, 2007 and 2006 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 2008, 2007 and 2006 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.

### (14) Segment and Geographic Information

In order to allow for increased visibility and accountability of costs and more focused customer service and product development, the Company evaluates and reviews results based on four segments: three of these segments — Land Imaging Systems, Marine Imaging Systems and Data Management Solutions — make up the ION Systems Division, and the fourth segment is the ION Solutions Division. The Company's land sensors business unit, which specializes in the design and manufacture of geophones, and its land imaging systems business unit have been aggregated to form the Land Imaging Systems segment. Additionally, with the acquisition of ARAM, the Company has begun to integrate and has included ARAM's business operations with those of ION's land imaging systems business unit. The Company measures segment operating results based on income from operations.

A summary of segment information for the years ended December 31, 2008, 2007 and 2006, is as follows (in thousands):

	Years Ended December 31,		
	2008	2007	2006
Net revenues:			
ION Systems Division:			
Land Imaging Systems.....	\$ 200,493	\$ 325,037	\$ 205,779
Marine Imaging Systems .....	182,710	177,685	127,927
Data Management Solutions .....	37,240	37,660	23,198
Total ION Systems Division.....	420,443	540,382	356,904
ION Solutions Division.....	259,080	172,729	146,652
Total.....	\$ 679,523	\$ 713,111	\$ 503,556
Income (loss) from operations:			
ION Systems Division:			
Land Imaging Systems.....	\$ (13,662)	\$ 28,681	\$ 13,463
Marine Imaging Systems .....	52,624	44,727	30,258
Data Management Solutions .....	22,298	17,290	7,461
Total ION Systems Division.....	61,260	90,698	51,182
ION Solutions Division.....	40,534	21,646	28,648
Corporate and other.....	(62,334)	(48,450)	(39,882)
Impairment of goodwill and intangible assets.....	(252,283)	—	—
Total.....	\$ (212,823)	\$ 63,894	\$ 39,948
Depreciation and amortization (including multi-client data library):			
ION Systems Division:			
Land Imaging Systems.....	\$ 9,094	\$ 4,036	\$ 2,561
Marine Imaging Systems .....	1,655	1,383	825
Data Management Solutions .....	3,145	3,329	2,896
Total ION Systems Division.....	13,894	8,748	6,282
ION Solutions Division.....	96,995	53,220	38,677
Corporate and other.....	2,695	2,461	2,088
Total.....	\$ 113,584	\$ 64,429	\$ 47,047



	<u>December 31,</u> <u>2008</u>	<u>December 31,</u> <u>2007</u>
Total assets:		
ION Systems Division:		
Land Imaging Systems .....	\$ 398,473	\$ 176,451
Marine Imaging Systems .....	146,877	146,239
Data Management Solutions .....	<u>41,293</u>	<u>62,689</u>
Total ION Systems Division.....	586,643	385,379
ION Solutions Division.....	222,206	270,211
Corporate and other.....	<u>52,582</u>	<u>53,559</u>
Total.....	<u>\$ 861,431</u>	<u>\$ 709,149</u>

Total assets by geographic area:

	<u>December 31,</u> <u>2008</u>	<u>December 31,</u> <u>2007</u>
North America .....	\$ 644,165	\$ 577,079
Europe .....	63,560	94,200
Middle East .....	113,324	25,104
Latin America .....	34,608	11,454
Other .....	<u>5,774</u>	<u>1,312</u>
Total.....	<u>\$ 861,431</u>	<u>\$ 709,149</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 all facilities that are jointly utilized by segments. 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):

	<u>Years Ended December 31,</u>		
	<u>2008</u>	<u>2007</u>	<u>2006</u>
North America .....	\$ 272,567	\$ 267,673	\$ 162,261
Europe.....	202,170	179,064	119,398
Asia Pacific.....	57,470	131,683	86,245
Commonwealth of Independent States (CIS).....	30,051	52,247	37,283
Africa.....	31,693	37,116	31,306
Middle East.....	32,872	29,311	51,796
Latin America .....	<u>52,700</u>	<u>16,017</u>	<u>15,267</u>
Total.....	<u>\$ 679,523</u>	<u>\$ 713,111</u>	<u>\$ 503,556</u>

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

### (15) Income Taxes

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

	<u>Years Ended December 31,</u>		
	<u>2008</u>	<u>2007</u>	<u>2006</u>
Domestic.....	\$ (82,811)	\$ 36,453	\$ 26,539
Foreign.....	<u>(137,096)</u>	<u>19,014</u>	<u>7,518</u>
Total.....	<u>\$(219,907)</u>	<u>\$ 55,467</u>	<u>\$ 34,057</u>

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

	<u>Years Ended December 31,</u>		
	<u>2008</u>	<u>2007</u>	<u>2006</u>
Current:			
Federal .....	\$ 58	\$ 2,499	\$ 687
State and local .....	208	(222)	1,798
Foreign .....	18,414	7,586	3,643
Deferred (U.S. and foreign) .....	<u>(17,549)</u>	<u>2,960</u>	<u>(1,014)</u>
Total income tax expense .....	<u>\$ 1,131</u>	<u>\$ 12,823</u>	<u>\$ 5,114</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 the years ended December 31, 2008, 2007 and 2006 to income tax expense is as follows (in thousands):

	<u>Years Ended December 31,</u>		
	<u>2008</u>	<u>2007</u>	<u>2006</u>
Expected income tax expense at 35%.....	\$ (76,967)	\$ 19,414	\$ 11,920
Alternate minimum tax .....	58	2,499	687
Foreign taxes (tax rate differential and foreign tax differences).....	4,467	8,865	2,883
Nondeductible goodwill.....	84,756	—	—
State and local taxes.....	269	(282)	1,798
Deferred tax asset valuation allowance.....	(11,713)	(18,266)	(12,538)
Nondeductible expenses .....	261	593	364
Total income tax expense .....	<u>\$ 1,131</u>	<u>\$ 12,823</u>	<u>\$ 5,114</u>

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

	<u>December 31,</u> <u>2008</u>	<u>December 31,</u> <u>2007</u>
Current deferred:		
Deferred income tax assets:		
Accrued expenses.....	\$ 8,812	\$ 12,037
Allowance accounts .....	9,557	5,544
Inventory .....	<u>(103)</u>	<u>985</u>
Total current deferred income tax asset .....	18,266	18,566
Valuation allowance.....	<u>(4,401)</u>	<u>(13,227)</u>
Net current deferred income tax asset.....	<u>13,865</u>	<u>5,339</u>
Deferred income tax liabilities:		
Unbilled receivables.....	<u>(9,877)</u>	<u>(8,131)</u>
Net current deferred income tax asset (liability).....	<u>\$ 3,988</u>	<u>\$ (2,792)</u>
Noncurrent deferred:		
Deferred income tax assets:		
Net operating loss carryforward.....	\$ 4,632	\$ 3,688
Basis in research and development .....	26,674	22,002
Deferred income.....	18,900	21,000
Basis in property, plant and equipment.....	2,122	—
Tax credit carryforwards and other .....	<u>9,533</u>	<u>6,897</u>
Total deferred income tax asset .....	61,861	53,587
Valuation allowance.....	<u>(43,597)</u>	<u>(45,186)</u>
Net non-current deferred income tax asset .....	<u>18,264</u>	<u>8,401</u>
Deferred income tax liabilities:		
Basis in identified intangibles .....	(29,220)	(9,063)
Basis in property, plant and equipment .....	<u>—</u>	<u>151</u>
Net non-current deferred income tax asset (liability) .....	<u>\$ (10,956)</u>	<u>\$ (511)</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. The valuation allowance was calculated in accordance with the provisions of SFAS 109, "Accounting for Income Taxes," which requires that a valuation allowance be established or maintained when it is "more likely than not" that all or a portion of deferred tax assets will not be realized. The Company will continue to reserve for a significant portion of U.S. net deferred tax assets until there is sufficient evidence to warrant reversal. At December 31, 2008, the Company had net operating loss carry-forwards of approximately \$12.2 million, the majority of which expires beyond 2026. In 2008 and 2007, approximately \$3.5 million and \$3.6 million of tax benefits related to acquired net operating losses were recorded as reductions of goodwill of the acquired companies.

As a result of the implementation of FASB Interpretation No. 48, "Accounting for Uncertainty in Income Taxes – an Interpretation of FASB Statement No. 109" (FIN 48) adopted on January 1, 2007, the Company recorded no adjustment to beginning retained earnings because there were no unrecognized tax benefits. As of December 31, 2008, the Company has no

significant unrecognized tax benefits and does not expect to recognize any significant increases in unrecognized tax benefits during the next twelve month period. Interest and penalties, if any, related to unrecognized tax benefits are recorded in income tax expense.

The Company's U.S. federal tax returns for 2004 and subsequent years remain subject to examination by tax authorities. The Company is no longer subject to IRS examination for periods prior to 2004, although carryforward attributes that were generated prior to 2004 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 2005 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 \$59.9 million as it is the Company's intention to reinvest such earnings indefinitely. 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.

During 2004, the Company recorded \$52.9 million and \$21.4 million as identifiable intangible assets related to its purchase of GXT and Concept Systems, respectively. During 2008, the Company recorded \$101.8 million as identifiable intangible assets related to its purchase of ARAM Systems. At December 31, 2008, the Company recorded an impairment charge related to these assets of \$10.1 million. These intangible assets are not deductible for federal income taxes. The deferred tax liability related to the GXT intangibles is included in the December 31, 2008 and 2007 deferred tax balances. The deferred tax liability related to the Concept Systems intangibles totaled \$1.9 million and \$3.3 million at December 31, 2008 and 2007, respectively. The deferred tax liability related to the ARAM intangibles, acquired in September 2008, totaled \$21.9 million at December 31, 2008.

#### (16) Operating Leases

*Lessee.* The Company leases certain equipment, offices, and warehouse space under non-cancelable operating leases. Rental expense was \$14.8 million, \$11.7 million, and \$9.1 million for the years ended December 31, 2008, 2007 and 2006, respectively.

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

<u>Years Ended December 31,</u>	
2009 .....	\$ 11,487
2010 .....	11,200
2011 .....	8,523
2012 .....	6,416
2013 .....	<u>3,262</u>
Total .....	<u>\$ 40,888</u>

#### (17) Benefit Plans

*401(k).* 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 matches the employee contribution at a rate of 50% of the first 6% of compensation contributed to the plan. Company contributions to the plans were \$1.6 million, \$1.5 million, and \$1.2 million, during the years ended December 31, 2008, 2007 and 2006, respectively.

*Supplemental executive retirement plan.* The Company previously had a non-qualified, supplemental executive retirement plan (SERP) for its executives. The SERP provided for certain compensation to become payable on the participants' death, retirement or total disability as set forth in the plan. The only remaining obligations under this plan are the scheduled benefit payments to the spouse of a deceased former executive. The present value of the expected obligation to the spouse has been provided for in the Company's balance sheet.

#### (18) Legal Matters

The Company has been named in various lawsuits or threatened actions that are incidental to its ordinary business. Such lawsuits and actions could increase in number as the Company's business expands and the Company grows larger. 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.

### (19) Restructuring Charges

In the fourth quarter of 2008, the Company initiated a restructuring program, which included plans for reducing its headcount by approximately 13% (or 188 positions). As of December 31, 2008, the Company had determined that 83 employees would be subject to this reduction program. For these 83 employees, the Company expensed approximately \$2.0 million associated with severance costs and made cash payments of \$0.2 million resulting in an accrual as of December 31, 2008 of \$1.8 million. In the first quarter of 2009, the Company completed its restructuring program, eliminating the remaining 105 positions. During 2009, the Company will continue to evaluate its staffing needs and may additionally reduce its headcount.

### (20) Selected Quarterly Information — (Unaudited)

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

Year Ended December 31, 2008	Three Months Ended			
	March 31	June 30	September 30	December 31
Product revenues.....	\$ 93,034	\$ 104,360	\$ 140,332	\$ 79,785
Service revenues.....	47,125	76,305	78,197	60,385
Total net revenues.....	140,159	180,665	218,529	140,170
Gross profit.....	48,394	58,021	72,621	28,712
Impairment of goodwill and intangible assets.....	—	—	—	252,283
Income (loss) from operations.....	10,295	19,736	31,574	(274,428)
Interest expense.....	(487)	(652)	(1,592)	(9,992)
Fair value adjustment on preferred stock redemption features.....	178	(5)	(1,147)	2,189
Interest and other income.....	611	798	783	2,232
Income tax expense (benefit).....	2,059	3,524	3,760	(8,212)
Preferred stock dividends and accretion.....	910	908	925	1,146
Preferred stock beneficial conversion charge.....	—	—	—	68,786
Net income (loss) applicable to common shares.....	\$ 7,628	\$ 15,445	\$ 24,933	\$ (341,719)
Net income (loss) per basic share.....	\$ 0.08	\$ 0.16	\$ 0.26	\$ (3.43)
Net income (loss) per diluted share.....	\$ 0.08	\$ 0.16	\$ 0.25	\$ (3.43)

Year Ended December 31, 2007	Three Months Ended			
	March 31	June 30	September 30	December 31
Product revenues.....	\$ 123,480	\$ 135,861	\$ 126,246	\$ 152,104
Service revenues.....	41,565	29,295	47,306	57,254
Total net revenues.....	165,045	165,156	173,552	209,358
Gross profit.....	39,165	46,207	52,647	68,564
Income from operations.....	5,944	11,506	16,864	29,580
Interest expense.....	(1,453)	(1,800)	(1,764)	(1,266)
Loss of debt conversion.....	—	—	—	(2,902)
Interest and other income.....	388	104	(550)	816
Income tax expense.....	1,204	2,145	1,322	8,152
Preferred stock dividends and accretion.....	602	589	589	608
Net income applicable to common shares.....	\$ 3,073	\$ 7,076	\$ 12,639	\$ 17,468
Net income per basic share.....	\$ 0.04	\$ 0.09	\$ 0.16	\$ 0.20
Net income per diluted share.....	\$ 0.04	\$ 0.08	\$ 0.14	\$ 0.18

### (21) Related Parties

Mr. James M. Lapeyre, Jr. is the chairman and a significant equity owner of Laitram, L.L.C. (Laitram) 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 9.4% of the Company's outstanding common stock as of February 20, 2009.

The Company acquired DigiCourse, Inc., the Company's marine positioning products business, from Laitram in 1998 and renamed it I/O Marine Systems, Inc. In connection with that acquisition, the Company entered into a Continued Services Agreement with Laitram under which Laitram agreed to provide the Company certain accounting, 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, when the Company requests, the legal staff of Laitram advises the Company on certain intellectual property matters with regard to the Company's marine positioning systems. Under a lease of commercial property dated February 1, 2006, between Lapeyre Properties L.L.C. (an affiliate of Laitram) and ION, the Company agreed to lease certain office and warehouse space from Lapeyre Properties until January 2011. During 2008, the Company paid Laitram a total of approximately \$4.3 million, which consisted of approximately \$3.4 million for manufacturing services, \$0.8 million for rent and other pass-through third party facilities charges, and \$0.1 million for other services. For the 2007 and 2006 fiscal years, the Company paid Laitram a total of approximately \$4.9 million and \$3.6 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.

**SCHEDULE II**  
**ION GEOPHYSICAL CORPORATION AND SUBSIDIARIES**  
**VALUATION AND QUALIFYING ACCOUNTS**

<u>Year Ended December 31, 2006</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.....	\$ 3,081	\$ 577	\$ (857)	\$ 2,801
Allowances for doubtful notes .....	4,530	—	—	4,530
Warranty .....	3,896	6,784	(4,425)	6,255
Allowance for net deferred tax assets .....	78,860	(12,538)	10,002	76,324

<u>Year Ended December 31, 2007</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.....	\$ 2,801	\$ 437	\$ (563)	\$ 2,675
Allowances for doubtful notes .....	4,530	—	(1,179)	3,351
Warranty .....	6,255	13,074	(5,890)	13,439
Allowance for net deferred tax assets .....	76,324	(18,266)	355	58,413

<u>Year Ended December 31, 2008</u>	<u>Balance at Beginning of Year</u>	<u>Acquired 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.....	\$ 2,675	\$ —	\$ 4,852	\$ (1,842)	\$ 5,685
Allowances for doubtful notes .....	3,351	—	—	(3,351)	—
Warranty .....	13,439	845	4,624	(8,382)	10,526
Allowance for net deferred tax assets .....	58,413	—	(11,713)	1,298	47,998

## EXHIBIT INDEX

- 3.1 — Restated Certificate of Incorporation dated September 24, 2007 filed on September 24, 2007 as Exhibit 3.4 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 3.2 — Amended and Restated Bylaws of ION Geophysical Corporation filed on September 24, 2007 as Exhibit 3.5 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 3.3 — Certificate of Ownership and Merger merging ION Geophysical Corporation with and into Input/Output, Inc. dated September 21, 2007, filed on September 24, 2007 as Exhibit 3.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 4.1 — Certificate of Rights and Designations of Series D-1 Cumulative Convertible Preferred Stock, dated February 16, 2005 and filed on February 17, 2005 as Exhibit 3.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 4.2 — Certificate of Elimination of Series B Preferred Stock dated September 24, 2007, filed on September 24, 2007 as Exhibit 3.2 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 4.3 — Certificate of Elimination of Series C Preferred Stock dated September 24, 2007, filed on September 24, 2007 as Exhibit 3.3 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 4.4 — Certificate of Designation of Series D-2 Cumulative Convertible Preferred Stock dated December 6, 2007, filed on December 6, 2007 as Exhibit 3.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 4.5 — Certificate of Designation of Series D-3 Cumulative Convertible Preferred Stock dated February 20, 2008, filed on February 22, 2008 as Exhibit 3.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 4.6 — 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.
- 4.7 — 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.
- 4.8 — 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.
- 4.9 — 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.
- 4.10 — 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.
- \*\*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 — Employment Agreement dated effective as of May 22, 2006, between Input/Output, Inc. and R. Brian Hanson filed on May 1, 2006 as Exhibit 10.1 to the Company's Form 8-K, and incorporated herein by reference.
- \*\*10.7 — First Amendment to Employment Agreement dated as of August 20, 2007 between Input/Output, Inc. and R. Brian Hanson, filed on August 21, 2007 as Exhibit 10.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- \*\*10.8 — Second Amendment to Employment Agreement, dated as of December 1, 2008, between ION Geophysical Corporation and R. Brian Hanson, filed on January 29, 2009 as Exhibit 10.2 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- \*\*10.9 — 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.
- \*\*10.10 — Fourth Amended and Restated 2004 Long-Term Incentive Plan, filed as Appendix A to the definitive proxy statement for the 2008 Annual Meeting of Stockholders of ION Geophysical Corporation, filed on April 21, 2008, and incorporated herein by reference.
- 10.11 — 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.
- \*\*10.12 — 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.
- \*\*10.13 — 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.
- \*\*10.14 — 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.
- \*\*10.15 — 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.
- \*\*10.16 — 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.
- \*\*10.17 — 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.
- \*\*10.18 — 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.
- \*\*10.19 — 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.
- \*\*10.20 — 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.
- \*\*10.21 — 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.
- \*\*10.22 — Employment Agreement, dated as of December 1, 2008, between ION Geophysical Corporation and



- James R. Hollis, filed on January 29, 2009 as Exhibit 10.3 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- \*\*10.23 — 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.
  - 10.24 — 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.
  - 10.25 — 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.
  - \*\*10.26 — 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.
  - \*\*10.27 — 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.
  - 10.28 — 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.
  - 10.29 — 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.
  - \*\*10.30 — 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.
  - 10.31 — Amended and Restated Credit Agreement dated as of July 3, 2008, by and among ION Geophysical Corporation, ION International S.A R.L., HSBC Bank USA, N.A., as administrative agent, joint lead arranger and joint bookrunner, ABN AMRO Incorporated, as joint lead arranger and joint bookrunner, and CitiBank, N.A., as syndication agent, filed on July 8, 2008 as Exhibit 10.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.
  - 10.32 — First Amendment to Amended and Restated Credit Agreement and Domestic Security Agreement, dated as of September 17, 2008, by and among ION Geophysical Corporation, ION International S.A R.L., HSBC Bank USA, N.A., as administrative agent, joint lead arranger and joint bookrunner, ABN AMRO Incorporated, as joint lead arranger and joint bookrunner, and CitiBank, N.A., as syndication agent, filed on September 23, 2008 as Exhibit 10.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.
  - 10.33 — Third Amendment to Amended and Restated Credit Agreement, dated as of December 29, 2008, by and among ION Geophysical Corporation, ION International S.A R.L., the Guarantors and Lenders party thereto and HSBC Bank USA, N.A., as administrative agent, filed on January 5, 2009 as Exhibit 10.3 to the Company's Current Report on Form 8-K and incorporated herein by reference.
  - 10.34 — Fourth Amendment to Amended and Restated Credit Agreement and Foreign Security Agreement, Limited Waiver and Release dated as of December 30, 2008, by and among ION Geophysical Corporation, ION International S.A R.L., the Guarantors and Lenders party thereto and HSBC Bank USA, N.A., as administrative agent, filed on January 5, 2009 as Exhibit 10.4 to the Company's Current Report on Form 8-K and incorporated herein by reference.
  - \*\*10.35 — 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.
  - \*\*10.36 — Consulting Services Agreement dated as of October 19, 2006, by and between GX Technology Corporation and Michael K. Lambert, filed on October 24, 2006 as Exhibit 10.2 to the Company's Current Report on Form 8-K, and incorporated herein by reference.

- \*\*10.37 — First Amendment to Consulting Services Agreement dated as of January 5, 2007, by and between GX Technology Corporation and Michael K. Lambert, filed on January 8, 2007 as Exhibit 10.1 to the Company's Current Report on Form 8-K, and incorporated herein by reference.
- \*\*10.38 — Letter agreement dated October 19, 2006, by and between the Company and Michael K. Lambert, filed on October 24, 2006 as Exhibit 10.1 to the Company's Current Report on Form 8-K, and incorporated herein by reference.
- \*\*10.39 — Severance Agreement dated as of December 1, 2008, between ION Geophysical Corporation and Charles J. Ledet, filed on December 5, 2008 as Exhibit 10.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 10.40 — Consulting Agreement dated as of December 1, 2008, between ION Geophysical Corporation and Charles J. Ledet, filed on December 5, 2008 as Exhibit 10.2 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 10.41 — Rights Agreement, dated as of December 30, 2008, between ION Geophysical Corporation and Computershare Trust Company, N.A., as Rights Agent, filed as Exhibit 4.1 to the Company's Form 8-A (Registration No. 001-12691) and incorporated herein by reference.
- 10.42 — Amended and Restated Share Purchase Agreement, dated as of September 17, 2008, by and among ION Geophysical Corporation, Aram Systems Ltd., Canadian Seismic Rentals Inc. and the Sellers party thereto, filed on September 23, 2008 as Exhibit 2.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 10.43 — Assignment Agreement dated as of December 30, 2008 by and among 3226509 Nova Scotia Company, ARAM Systems Ltd., Canadian Seismic Rentals Inc., Maison Mazel Ltd. and ION Geophysical Corporation, filed on January 5, 2009 as Exhibit 10.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 10.44 — Release Agreement dated as of December 30, 2008 by and among ION Geophysical Corporation, 3226509 Nova Scotia Company, ARAM Systems Ltd., Canadian Seismic Rentals Inc., Maison Mazel Ltd. and the Sellers party thereto, filed on January 5, 2009 as Exhibit 10.2 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 10.45 — Bridge Loan Agreement dated as of December 30, 2008, by and among ION Geophysical Corporation, the Guarantors and Lenders party thereto and Jefferies Finance LLC, as administrative agent, sole bookrunner and sole lead arranger, filed on January 5, 2009 as Exhibit 10.5 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 10.46 — Amended and Restated Subordinated Promissory Note dated December 30, 2008, made by 3226509 Nova Scotia Company in favor of Maison Mazel Ltd., filed on January 5, 2009 as Exhibit 10.6 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- \* \*\*10.47 — ION Stock Appreciation Rights Plan dated November 17, 2008.
- \*21.1 — Subsidiaries of the Company.
- \*23.1 — Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm.
- \*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.

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\* Filed herewith.

\*\* Management contract or compensatory plan or arrangement.

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# [ FINANCIAL HIGHLIGHTS ]

	years ended December 31		
	<u>2008</u>	<u>2007</u>	<u>2006</u>
	(in thousands, except per share data)		
<b>STATEMENT OF OPERATIONS DATA</b>			
Product revenues	\$ 417,511	\$ 537,691	\$ 354,258
Service revenues	262,012	175,420	149,299
<b>Net revenues</b>	<b><u>679,523</u></b>	<b><u>713,111</u></b>	<b><u>503,556</u></b>
Cost of products	289,795	386,849	252,647
Cost of services	181,980	119,679	91,592
<b>Gross profit</b>	<b><u>207,748</u></b>	<b><u>206,583</u></b>	<b><u>159,317</u></b>
Operating expenses (income)			
Research and development	49,541	49,965	37,853
Marketing and sales	47,854	43,877	40,651
General and administrative	70,776	49,100	40,807
Impairment of goodwill and intangible assets	252,283	—	—
(Gain) loss on sale of assets	117	(253)	58
<b>Total operating expenses</b>	<b><u>420,571</u></b>	<b><u>142,689</u></b>	<b><u>119,369</u></b>
Income (loss) from operations	(212,823)	63,894	39,948
Interest expense	(12,723)	(6,283)	(5,770)
Interest income	1,439	1,848	2,040
Loss on debt conversion	—	(2,902)	—
Fair value adjustment of preferred stock redemption features	1,215	—	—
Other income (expense)	(2,985)	(1,090)	(2,161)
Income before income taxes and change in accounting principle	(219,907)	55,467	34,057
Income tax expense	1,131	12,823	5,114
Net income (loss) before change in accounting principle	(221,038)	42,644	28,943
Cumulative effect of change in accounting principle	—	—	398
<b>Net income (loss)</b>	<b><u>(221,038)</u></b>	<b><u>42,644</u></b>	<b><u>29,341</u></b>
Preferred stock dividends and accretion	3,889	2,388	2,429
Preferred stock beneficial conversion charge	68,786	—	—
Net income (loss) applicable to common shares	<u>\$ (293,713)</u>	<u>\$ 40,256</u>	<u>\$ 26,912</u>
Net income (loss) per basic share before change in accounting principle	\$ (3.06)	\$ 0.49	\$ 0.33
Cumulative effect of change in accounting principle	—	—	0.01
Net income (loss) per basic share	<u>\$ (3.06)</u>	<u>\$ 0.49</u>	<u>\$ 0.34</u>
Net income (loss) per diluted share before change in accounting principle	\$ (3.06)	\$ 0.45	\$ 0.32
Cumulative effect of change in accounting principle	—	—	0.01
Net income (loss) per diluted share	<u>\$ (3.06)</u>	<u>\$ 0.45</u>	<u>\$ 0.33</u>
Weighted average number of common shares outstanding	<u>95,887</u>	<u>81,941</u>	<u>79,497</u>
Weighted average number of diluted shares outstanding	<u>95,887</u>	<u>97,321</u>	<u>95,182</u>
<b>Balance Sheet Data (end of year)</b>			
Working capital	\$ 267,155	\$ 220,522	\$ 170,342
Total assets	861,431	709,149	655,136
Notes payable and long-term debt	291,909	24,713	77,540
Stockholders' equity	325,070	476,240	369,668
<b>Other Data</b>			
Capital expenditures	\$ 17,539	\$ 11,375	\$ 13,704
Investment in multi-client library	110,362	64,279	39,087
Depreciation and amortization (other than multi-client library)	33,052	26,767	22,036
Amortization of multi-client library	80,532	37,662	25,011

The selected consolidated financial data set forth below with respect to our consolidated statements of operations for the years ended December 31, 2008, 2007 and 2006, and with respect to our consolidated balance sheets at December 31, 2008, 2007 and 2006 have been derived from our audited consolidated financial statements. Our results of operations and financial condition have been affected by acquisitions of companies and impairments of assets during the periods presented, which may affect the comparability of the financial information. In particular, the selected financial data set forth below reflects our acquisitions of ARAM in September 2008. Our results of operations for the year ended December 31, 2008 were negatively impacted from the impairment of our goodwill and intangibles assets totaling \$252.3 million and from the beneficial conversion charge of \$68.8 million associated with our outstanding convertible preferred stock. This information should not be considered as being necessarily 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 in our Annual Report on Form 10-K for the year ended December 31, 2008.

# [ CORPORATE INFORMATION ]

## → Executive Officers

Robert P. (Bob) Peebler  
Chief Executive Officer

James R. (Jim) Hollis  
President and Chief Operating Officer

R. Brian Hanson  
Executive Vice President and  
Chief Financial Officer

TengBeng Koid  
Executive Vice President,  
Global Business Development

Chris M. Friedemann  
Senior Vice President,  
Corporate Marketing

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, Laitram L.L.C.

Bruce S. Appelbaum, PhD  
Chairman, Mosaic Natural Resources, Ltd.

Theodore H. Elliott, Jr.  
Chairman, Prime Capital Management Co., Inc.

G. Thomas Marsh  
Retired Executive Vice President,  
Lockheed Martin Space Systems Company

Franklin Myers  
Senior Advisor  
Cameron International Corporation

S. James Nelson, Jr.  
Retired Vice Chairman, Cal Dive International, Inc.  
(now Helix Energy Solutions Group, Inc.)

Robert P. (Bob) Peebler  
Chief Executive Officer  
ION Geophysical Corporation

John N. Seitz  
Vice Chairman of the Board  
Endeavour International Corporation

Nicholas G. Vlahakis  
Retired Executive Vice President and Chief  
Operating Officer, Alliant Techsystems, Inc.

## → Investor Relations

Shareholders, 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, 2008, although furnished as an integral 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 900, Houston, Texas, on May 27, 2009, 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, 2008, 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.

## → Statement for Purpose of 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, segment 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, future cash needs and future sources of cash, including availability under the Company's revolving line of credit facility, future compliance with debt financial covenants, future sales and market growth, 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 audit adjustments and other modifications to the Company's financial statements not currently foreseen, 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 the economic downturn and the volatile credit environment; risks associated with the integration of ARAM's business; 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; the relatively small number of customers that the Company currently relies upon; the fact that a significant portion of the Company's revenues is derived from foreign sales; 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, 2008. The information contained herein includes references to trademarks, service marks and registered marks of ION Geophysical Corporation and our subsidiaries as indicated. Except where stated otherwise or unless the context otherwise requires, the terms "VectorSeis," "FireFly," "ARIES," "Orca," and "Scorpion" refer to our VECTORSEIS®, FIREFLY®, ARIES®, ORCA®, and SCORPION® registered marks, and the terms "AfricaSPAN," "ArcticSPAN," "BasinSPAN," "BrazilSPAN," "Connex", "[Intelligent Acquisition]" and "DigiFIN" refer to our AfricaSPAN™, ArcticSPAN™, BasinSPAN™, BrazilSPAN™, CONNEX™, [INTELLIGENT ACQUISITION]™ and DigiFIN™ trademarks and service marks.

**ion**<sup>™</sup>

[ CHARGED WITH INNOVATION ]

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[iongeo.com](http://iongeo.com)