

As filed with the U.S. Securities and Exchange Commission on July 7, 2021

Registration No. 333

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549

FORM S-1
**REGISTRATION STATEMENT UNDER THE
SECURITIES ACT OF 1933**

ION Geophysical Corporation
(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

1389
(Primary Standard Industrial
Classification Code Number)

22-2286646
(I.R.S. Employer
Identification Number)

2105 CityWest Blvd., Suite 100, Houston, Texas 77042-2839
Telephone: (281) 933-3339

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

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Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this registration statement.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933 check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

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

Large accelerated filer Accelerated filer Non-accelerated filer Smaller reporting company
Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

CALCULATION OF REGISTRATION FEE

Title of Each Class of Security Being Registered	Proposed Maximum Aggregate Offering Price ⁽¹⁾	Amount of Registration Fee ⁽²⁾
Common stock, par value \$0.01 per share	\$17,500,000	\$1,909.25
Series A warrants to purchase common stock ⁽³⁾	—	—
Shares of common stock, par value \$0.01 per share, underlying Series A warrants to purchase common stock	\$8,750,000	\$954.63
Series B warrants to purchase common stock ⁽³⁾	—	—
Shares of common stock, par value \$0.01 per share, underlying Series B warrants to purchase common stock	\$17,500,000	\$1,909.25
Total	\$43,750,000	\$4,773.13

- (1) Estimated solely for the purpose of calculating the registration fee in accordance with Rule 475(o) of the Securities Act.
- (2) Calculated pursuant to Rule 457(o) of the Securities Act based on an estimate of the proposed maximum aggregate offering price of the securities registered hereunder.
- (3) In accordance with Rule 457(i) under the Securities Act, no separate registration fee is required with respect to the warrants registered hereby.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

SUBJECT TO COMPLETION DATED JULY 7, 2021

PROSPECTUS

ION Geophysical Corp.
11,000,000 Shares of Common Stock
Series A Warrants to purchase up to 5,500,000 Shares of Common Stock
Series B Warrants to purchase up to 11,000,000 Shares of Common Stock

We are offering 11,000,000 shares of our common stock, par value \$0.001 per share (the “common stock”), Series A warrants (the “Series A warrants”) to purchase up to 5,500,000 shares of our common stock and Series B warrants (the “Series B warrants”) to purchase up to 11,000,000 shares of common stock. The Series A warrant will have an initial exercise price of \$ _____ per share of common stock. The Series B warrant will have an initial exercise price of \$ _____ per share of the common stock. Each share of common stock will be sold with one-half of a Series A warrant and a Series B warrant, and each whole warrant gives the holder the right to purchase one share of common stock.

The Series A warrants will be exercisable, subject to certain limitations, during the period commencing from the date of their issuance and will expire five years from the date of issuance. The Series B warrants will also be exercisable, subject to certain limitations, during the period commencing from the date of their issuance and will expire six months from the date of issuance. See “Description of Capital Stock” for more information on the securities offered hereby.

Our common stock is quoted on the NYSE, under the symbol “IO.” On July 6, 2021, the last reported price of our common stock on the NYSE was \$1.91 per share. There is no established trading market for any of the warrants, and we do not expect a market to develop. We do not intend to apply for a listing of any of the warrants on any national exchange.

	Per Share, Series A Warrant and Series B Warrant	Total
Price to the public	\$	\$
Underwriting discount and commission ⁽¹⁾	\$	\$
Proceeds, before expenses, to us	\$	\$

(1) See “Underwriting” for a complete description of compensation payable to the underwriter.

The above summary of offering proceeds to us does not give effect to any exercise of the warrants being issued in this offering. We estimate the total expenses of this offering, excluding the underwriting discounts and commissions, will be approximately \$ _____.

We expect that delivery of the shares of common stock and warrants being offered pursuant to this prospectus will be made on or about _____, 2021, subject to customary closing conditions.

Investing in our securities involves a high degree of risk. You should carefully review the risks and uncertainties described under the heading “Risk Factors” beginning on page 8 of this Prospectus and in any other document incorporated by reference herein or therein before you make an investment in our securities.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this Prospectus. Any representation to the contrary is a criminal offense.

Sole Bookrunning Manager

Oppenheimer & Co. Inc.

The date of this Prospectus is _____, 2021.

The information in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and it is not soliciting any offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

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You should rely only on the information contained in this Prospectus and documents incorporated into this Prospectus by reference. We have not authorized anyone to provide you with information different from that contained in this Prospectus or the documents incorporated by reference herein. This Prospectus may only be used where it is legal to sell these securities. The information contained in this Prospectus, the documents incorporated by reference herein and any supplements to this Prospectus are accurate only as of the dates of their respective covers or earlier dates as specified therein, regardless of the time of delivery of this Prospectus or any supplement to this Prospectus or of any sale of these securities.

As permitted under the rules of the Securities and Exchange Commission (the “SEC”), this Prospectus incorporates important business information about ION Geophysical Corporation that is contained in documents that we file with the SEC, but that is not included in or delivered with this Prospectus. You may obtain copies of these documents, without charge, from the website maintained by the SEC at www.sec.gov, as well as from other sources. See “*Where You Can Find More Information*” and “*Incorporation of Certain Documents by Reference*” in this Prospectus.

ABOUT THIS PROSPECTUS

This Prospectus is part of a registration statement that we filed with the SEC. As permitted by the rules and regulations of the SEC, the registration statement filed by us includes additional information not contained in this Prospectus. You may read the registration statement and the other reports we file with the SEC at the SEC's website described under the heading "Where You Can Find More Information" in this Prospectus.

This Prospectus and the documents incorporated by reference in this Prospectus include important information about us and the securities being offered. You should rely only on this Prospectus and the information incorporated or deemed to be incorporated by reference in this Prospectus. We have not authorized anyone to provide you with information that is in addition to, or different from, that contained or incorporated by reference in this Prospectus. If anyone provides you with different or inconsistent information, you should not rely on it. This Prospectus does not constitute an offer to sell or the solicitation of an offer to buy securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction. You should not assume that the information contained or incorporated by reference in this Prospectus is accurate as of any date other than as of the date of this Prospectus, or in the case of the documents incorporated by reference, the date of such documents regardless of the time of delivery of this Prospectus or common stock or warrants. Our business, financial condition, liquidity, results of operations and prospects may have changed since those dates.

We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to the registration statement of which this Prospectus forms a part or any document that is incorporated by reference in this Prospectus were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

As used in this prospectus, unless the context requires otherwise, the terms "ION," the "Company," "we," "our," and "us" refer to ION Geophysical Corporation and, where the context requires, our subsidiaries. Unless otherwise stated, currency amounts in this prospectus are stated in U.S. dollars, or "\$."

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Prospectus, including any information incorporated by reference herein, contains certain “forward- looking statements” within the meaning of Section 27A of the United States Securities Act of 1933, as amended (the “Securities Act”), and Section 21E of the United States Securities Exchange Act of 1934, as amended (the “Exchange Act”), that involve known and unknown risks and uncertainties. These statements relate to our expectations for future events and time periods. All statements other than statements of historical fact are statements that could be deemed to be forward-looking statements, including, but not limited to, statements regarding:

- future financial performance and growth targets or expectations;
- market and industry trends and developments; and
- the ultimate benefits of our completed restructuring transactions.

You can identify these and other forward-looking statements by the use of words such as “anticipates,” “expects,” “intends,” “plans,” “predicts,” “believes,” “seeks,” “estimates,” “may,” “might,” “should,” “would,” “could,” “potential,” “future,” “continue,” “ongoing,” “forecast,” “project,” “target” or similar expressions, and variations or negatives of these words.

These forward-looking statements are based on information available to us as of the date of this Prospectus and our current expectations, forecasts and assumptions, and involve a number of risks and uncertainties. Accordingly, forward-looking statements should not be relied upon as representing our views as of any subsequent date. Future performance cannot be ensured, and actual results may differ materially from those in the forward-looking statements. Some factors that could cause actual results to differ include:

- our ability to generate or obtain additional capital to fund our business and support our growth on terms acceptable to us, if at all, or without diluting existing stockholders;
- the ultimate benefits of our completed restructuring transactions;
- our ability to comply with our debt financial covenants;
- the impact of the COVID-19 pandemic on our business, financial condition, and results of operations;
- future levels of our capital expenditures and of our customers for seismic activities;
- future oil and gas commodity prices;
- the effects of current and future worldwide economic conditions (particularly in developing countries) and demand for oil and natural gas and seismic equipment and services;
- future implication of our negative working capital and stockholders’ deficit, including future cash needs and availability of cash, to fund our operations and pay our obligations;
- the effects of current and future unrest in the Middle East, North Africa and other regions;
- the timing of anticipated revenues and the recognition of those revenues for financial accounting purposes;
- the effects of ongoing and future industry consolidation;
- the timing of future revenue realization of anticipated orders for multi-client survey projects and data processing work in our E&P Technology & Services segment;
- future government laws or regulations pertaining to the oil and gas industry, including trade restrictions, embargoes and sanctions imposed by the U.S. government or laws curtailing the exploration for, or use of hydrocarbons;
- future government actions that may result in the deprivation of our contractual rights, including the potential for adverse decisions by judicial or administrative bodies in foreign countries with unpredictable or corrupt judicial systems;
- expected net revenues, gross margins, income from operations and net income for our services and products;

- future seismic industry fundamentals, including future demand for seismic services and equipment;
- future benefits to our customers to be derived from new services and products;
- future benefits to be derived from our investments in technologies;
- future growth rates for our services and products;
- the degree and rate of future market acceptance of our new services and products;
- expectations regarding exploration and production (“E&P”) companies and seismic contractor end-users purchasing our more technologically-advanced services and products;
- anticipated timing and success of commercialization and capabilities of services and products under development and start-up costs associated with their development;
- future opportunities for new products and projected research and development expenses;
- limitations on our ability to utilize deferred tax assets;
- expectations regarding the impact of the U.S. Tax Cuts, Jobs Act and CARES Act;
- anticipated results with respect to certain estimates we make for financial accounting purposes;
- future success dependent on our continuing ability to identify, hire, develop, motivate and retain skilled personnel for all areas of our organization;
- breaches to our systems could lead to loss of intellectual property, dissemination of highly confidential information, increased costs and impairment of our ability to conduct our operations;
- evolving cybersecurity risks, such as those involving unauthorized access or control, denial-of-service attacks, malicious software, data privacy breaches by employees, insiders or others with authorized access, cyber or phishing-attacks, ransomware, malware, social engineering, physical breaches or other actions;
- compliance with the U.S. Foreign Corrupt Practices Act and other applicable U.S. and foreign laws prohibiting corrupt payments to government officials and other third parties;
- anticipated approval of the INOVA sale by applicable regulators;
- expectations regarding the collectability of our accounts receivables; and
- the adoption of additional executive orders, regulatory action, and/or legislation targeting greenhouse gas emissions, or prohibiting, delaying or restricting oil and gas development activities in certain areas, during the Biden Administration.

You are cautioned not to place undue reliance on any forward-looking statements, which speak only as of the date of this Prospectus. Except as required by law, we do not undertake any obligation to update or release any revisions to these forward-looking statements to reflect any events or circumstances, whether as a result of new information, future events, changes in assumptions or otherwise, after the date hereof.

PROSPECTUS SUMMARY

This summary highlights information contained elsewhere in this Prospectus. This summary does not contain all of the information you should consider before investing in our securities. You should read the entire Prospectus carefully, including the section describing the risks of investing in our securities under the caption “Risk Factors,” and the documents and financial statements incorporated by reference in the section entitled “Incorporation of Certain Documents by Reference” before making an investment decision. Some of the statements in this summary constitute forward-looking statements. For more information, please see “Cautionary Note Regarding Forward-Looking Statements.”

Company Overview

ION is an innovative, asset light global technology company that delivers powerful data-driven decision-making offerings to offshore energy and ports and harbors industries. We are entering a fourth industrial revolution where technology is fundamentally changing how decisions are made. Decision-making is shifting from what was historically an art to a science. Data, analytics and digitalization provide a step-change opportunity to translate information into insights, enabling our clients to enhance decisions and results.

We have been a leading technology innovator for over 50 years. While the traditional focus of our cutting-edge technology has been on the E&P industry, we are now broadening and diversifying our business into relevant adjacent markets such as E&P logistics, ports and harbors and defense. Our offerings are focused on improving subsurface knowledge to enhance E&P decision-making and enhancing situational awareness to optimize offshore operations. We serve customers in most major energy producing regions of the world from strategically located offices.

The Company is publicly listed on the New York Stock Exchange (the “NYSE”) under the ticker IO. ION is headquartered in Houston, Texas with regional offices around the world. The Company has approximately 400 employees, about half of whom are in technical roles and a quarter have advanced degrees. We have approximately 450 patents and pending patent applications in various countries around the world.

We provide our services and products through two business segments — E&P Technology & Services and Operations Optimization. In addition, we have a 49% ownership interest in our INOVA Geophysical Equipment Limited (“INOVA Geophysical,” or “INOVA”), a joint venture with BGP Inc. (“BGP”), a subsidiary of China National Petroleum Corporation. BGP owns the remaining 51% equity interest in INOVA. We wrote our investment in INOVA down to zero in 2014. See further discussion below on our agreement to sell our interest in INOVA.

Our E&P Technology & Services segment creates digital data assets and delivers services to help E&P companies improve decision-making, reduce risk and maximize value. Across the E&P lifecycle, our E&P offerings focus on driving customer decisions, such as which blocks to bid on and for how much, how to maximize portfolio value, where to drill wells or how to optimize production.

Our Operations Optimization segment develops mission-critical subscription offerings and provides engineering services that enable operational control and optimization offshore. This segment is comprised of our Optimization Software & Services and Devices offerings. Our advanced hardware and software offerings control some of the largest moving objects on the planet and in some of the harshest conditions.

We historically conducted our land seismic equipment business through INOVA, which manufactures land seismic data acquisition systems, digital sensors, vibroseis vehicles (i.e., vibrator trucks), and energy source controllers. In March 2020, we announced an agreement to sell our 49% ownership interest in INOVA joint venture for \$12.0 million, subject to regulatory approvals and other closing conditions.

Our executive offices are located at 2105 CityWest Blvd., Suite 100, Houston, Texas 77042, and our telephone number is (281) 933-3339.

For a further discussion of our business, we urge you to read the information that is provided on EDGAR and incorporated by reference into this Prospectus. See “Where You Can Find More Information and Incorporation By Reference.”

Recent Developments

Restructuring Transactions

On April 20, 2021, the Company completed an offer to exchange (the “Exchange Offer”) all of its outstanding 9.125% Senior Secured Second Priority Notes due December 15, 2021 (the “Existing Second Lien Notes”) for 8.00% Senior Secured Second Priority Notes due December 15, 2025 (the “New Notes”) and other consideration in the form of cash and ION common stock, as described in the Company’s Prospectus dated March 10, 2021 and its previously announced rights offering (the “Rights Offering,” and together with the Exchange Offer, the “Restructuring Transactions”) to holders of the Company’s common stock to purchase for (i) \$2.78 principal amount of the New Notes per right, at a purchase price of 100% of the principal amount thereof or (ii) 1.08 shares of common stock per right, at a purchase price of \$2.57 per whole share of common stock, as described in the Company’s Prospectus dated March 10, 2021.

In the Exchange Offer, an aggregate principal amount of approximately \$113.5 million, or approximately 94.1% of the \$120.6 million outstanding Existing Second Lien Notes were accepted and exchanged for (1) \$84.7 million aggregate principal amount of the New Notes, (2) 6.1 million shares of common stock, including 1.5 million shares issued pursuant to an early participation payment for holders of Existing Second Lien Notes who tendered prior to March 24, 2021 and 4.6 million shares issued as stock consideration in lieu of New Notes, and (3) \$20.7 million paid in cash, including \$3.6 million of accrued and unpaid interest that became due on the Existing Second Lien Notes as part of the exchange. The Company has accepted for exchange all such Existing Second Lien Notes validly tendered and not validly withdrawn in the Exchange Offer as of the expiration time on April 12, 2021. Pursuant to the Exchange Offer, the Company will make an offer to participants to repurchase New Notes at par for up to 50% of the proceeds raised in excess of \$35.0 million from the Rights Offering valued at \$3.4 million.

In the concurrent Rights Offering, an aggregate amount of \$41.8 million of rights (including over-subscription) was validly exercised by the holders of the Company’s common stock, apportioned as \$30.1 million in New Notes and \$11.8 million in common stock allocated in 4.6 million shares. All over-subscription rights were exercised without proration as the \$50.0 million limit on proceeds was not exceeded. Backstop parties were paid 5% backstop fees, in kind, resulting in the issuance of an additional \$1.5 aggregate principal amount of New Notes and 0.2 million shares of common stock.

In total, \$116.2 million in aggregate principal amount of New Notes and 10.9 million shares of common stock were issued and delivered through the clearing system of the Depository Trust Company. The Company received approximately \$14 million in net proceeds from the transactions after deducting noteholder obligations, estimated transaction fees and accrued and unpaid interest paid on the Existing Second Lien Notes. After the Restructuring Transactions, \$7.1 million of Existing Second Lien Notes remain outstanding and a total of 28.8 million shares of common stock were outstanding as of April 20, 2021.

Holders of New Notes may convert all or any portion of their New Notes at their option at any time prior to the close of business on the business day immediately preceding the maturity date. The conversion rate initially is 333 shares of common stock per \$1,000 principal amount of New Notes (equivalent to an initial conversion price of approximately \$3.00 per share of common stock) and is subject to adjustment as described in the indenture governing the New Notes. Upon conversion of a New Note, the Company will satisfy its conversion obligation by paying or delivering, as the case may be, cash, shares of its common stock or a combination of cash and shares of the Company’s common stock, at the Company’s election. If the Company satisfies its conversion obligation solely in cash or through payment and delivery, as the case may be, of a combination of cash and shares of common stock, the amount of cash and shares of common stock, if any, due upon conversion will be based on a daily conversion value calculated on a proportionate basis for each trading day in a 30 trading day observation period.

On or after the day that is the eighteen (18) month anniversary of the issue date of the New Notes (the “Issue Date”), the Company may require the conversion of all or part of the New Notes, at its option, if the Company’s common stock, as determined by the Company, has a 20-day volume weighted average price of at least 175% of the conversion price then in effect ending on, and including, the trading day immediately preceding the date on which the Company provides notice of conversion (a “Optional Conversion”). If the

Company undergoes an Optional Conversion prior to the third anniversary of the Issue Date, holders of New Notes will be entitled to a “make-whole” premium payment in cash equal to the applicable premium amount.

The amendment to the indenture governing the Existing Second Lien Notes was effective as of April 20, 2021. The Existing Second Lien Notes were modified to, among other things, provide for the release of the second priority security interest in the collateral securing the Existing Second Lien Notes, and deletes in their entirety substantially all of the restrictive covenants and certain events of default pertaining to the Existing Second Lien Notes.

For more information regarding these transactions, see our [Current Report on Form 8-K filed with the SEC on April 22, 2021](#) and incorporated by reference to this prospectus.

Summary of Risk Factors

There are a number of risks that you should understand before making an investment decision regarding investing in our common stock and warrants. This summary is not intended to be complete and should only be read together with the section entitled “Risk Factors.” If any of these risks occur, ION’s business, cash flows, financial condition, results of operations and/or prospects could be materially and adversely affected, and the trading price of ION’s securities and those of its subsidiaries could substantially decline. These risks include, among others, the following:

Risks Related to our Financial Condition and Indebtedness, including our New Notes

- Our indebtedness could adversely affect our liquidity, financial condition and our ability to fulfill our obligations and operate our business.
- We may not be able to generate sufficient cash flow to meet our debt service obligations.
- Despite our current level of indebtedness, we may incur substantially more debt.
- Our Revolving Credit and Security Agreement, dated as of August 22, 2014, as amended (the “Credit Facility”) and the New Notes Indenture contain, a number of restrictive covenants that will limit our ability to finance future operations or capital needs or engage in other business activities that may be in our interest.

Risks Related to the COVID-19 Pandemic

- The COVID-19 pandemic has adversely affected our business; the ultimate effect on our operations and financial condition will depend on future developments that are highly uncertain.
- The disruption and uncertainty spurred by COVID-19 has created new avenues for phishing and other cyberattacks, which may impact us to a greater extent as we allow a significant number of our employees to work remotely.

Risks Related to the Operation of our Business

- Our business depends on the level of exploration and production activities by the oil and natural gas industry. If capital expenditures by E&P companies decline, typically because of lower price realizations for oil and natural gas, the demand for our services and products would decline and our results of operations would be materially adversely affected.
- Our operating results often fluctuate from period to period as we are subject to cyclical and seasonality factors.
- 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.
- We have invested, and expect to continue to invest, significant sums of money in acquiring and processing seismic data for our E&P Technology & Services’ multi-client data library, without knowing precisely how much of this seismic data we will be able to license or when and at what price we will be able to license the data sets. Our business could be adversely affected by the failure of our customers

to fulfill their obligations to reimburse us for the underwritten portion of our seismic data acquisition costs for our multi-client library.

- We derive a substantial amount of our revenues from foreign operations and sales, which pose additional risks.
- The loss of any significant customer or the inability of our customers to meet their payment obligations to us could materially and adversely affect our results of operations and financial condition.
- 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 effectively operate our business.
- 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.
- Increased regulation and litigation around climate change could negatively impact our business.
- We have outsourcing arrangements with third parties to manufacture some of our products. If these third party suppliers fail to deliver quality products or components at reasonable prices on a timely basis, we may alienate some of our customers and our revenues, profitability and cash flow may decline. Additionally, current global economic conditions could have a negative impact on our suppliers, causing a disruption in our vendor supplies. A disruption in vendor supplies may adversely affect our results of operations.
- Global economic conditions and credit market uncertainties could have an adverse effect on customer demand for certain of our services and products, which in turn would adversely affect our results of operations, our cash flows, our financial condition and our stock price.
- Due to the international scope of our business activities, our results of operations may be significantly affected by currency fluctuations.
- As a technology-focused company, we are continually exposed to risks related to complex, highly technical services and products that are sometimes operated in dangerous marine environments.
- We may be unable to obtain broad intellectual property protection for our current and future products and we may become involved in intellectual property disputes; we rely on developing and acquiring proprietary data which we keep confidential.
- If we do not effectively manage our transition into new services, products and adjacent markets, our revenues may suffer.
- Goodwill and other long-lived assets (multi-client data library and property, plant and equipment) that we have recorded are subject to impairment evaluations. In addition, our product inventory may become obsolete or excessive due to future changes in technology, changes in market demand, or changes in market expectations. Write-downs of these assets may adversely affect our financial condition and results of operations.
- Our operations, and the operations of our customers, are subject to numerous government regulations, which could adversely limit our operating flexibility. Regulatory initiatives undertaken from time to time, such as restrictions, sanctions and embargoes, can adversely affect, and have adversely affected, our customers and our business.
- Our business is subject to cybersecurity risks and threats.
- Existing or future laws and regulations related to greenhouse gases and climate change could have a material adverse effect on our business, results of operations, and financial condition.
- Our certificate of incorporation and bylaws, Delaware law and certain contractual obligations under our agreement with BGP contain provisions that could discourage another company from acquiring us.
- Our stock price has been volatile, declining and increasing from time to time.

- If we do not regain compliance with the NYSE's continued listing requirements, our common stock could be delisted, which could negatively affect the Company, the price of our common stock, and the ability to trade our common stock.

Risks Related to our Common Stock, Warrants and this Offering

- Our ability to use our net operating losses and tax credits to offset future taxable income and taxes may be subject to certain limitations as a result of this offering, and we may not be able to utilize a significant portion of our net operating loss and tax credit carryforwards prior to their expiration.
- The price of our common stock might fluctuate significantly.
- Future sales, or the perception of future sales, of shares of our common stock could materially reduce the market price of our common stock.
- If you purchase our common stock and related warrants in this offering, you will incur immediate and substantial dilution in the book value of your shares.
- We do not intend to pay cash dividends.
- There is no public market for the warrants to purchase shares of our common stock being offered in this offering.
- Holders of our warrants will generally not have rights as a common stockholder until such holders exercise their warrants and acquire our common stock.
- Due to the speculative nature of warrants, there is no guarantee that it will ever be profitable for investors in the offering to exercise their warrants.
- Significant holders or beneficial holders of our common stock may not be permitted to exercise warrants that they hold.
- We have broad discretion to determine how to use the funds raised in this offering, and may use them in ways that may not enhance our operating results or the price of our common stock.

The Offering

The following summary describes the principal terms of the offering but is not intended to be complete. See the information under the heading “The Offering” in this Prospectus for a more detailed description of the terms and conditions of the offering.

Issuer	ION Geophysical Corporation
Common stock offered by us	11,000,000 shares of common stock
Warrants offered by us	<p>Series A warrants to purchase up to 5,500,000 shares of common stock and Series B warrants to purchase up to 11,000,000 shares of common stock.</p> <p>Each share of our common stock is being sold together with one-half of a Series A warrant to and a Series B warrant, and each whole warrant gives the holder the right to purchase one share of common stock. The shares of our common stock and warrants are immediately separable and will be issued separately but will be purchased together in this offering.</p> <p>Each Series A warrant will have an exercise price of \$ per share, will be exercisable during the period commencing from the date of their issuance and will expire five years from the date of issuance.</p> <p>Each Series B warrant will have an exercise price of \$ per share, will be exercisable during the period commencing from the date of their issuance and will expire six months from the date of issuance.</p> <p>This prospectus also includes the offering of the shares of common stock issuable upon exercise of the Series A warrants and the Series B warrants.</p>
Common stock to be outstanding after this offering	shares of common stock
Use of proceeds	<p>We estimate that the net proceeds to us from this offering, after deducting the underwriting discounts and commissions and estimated offering expenses payable by us, will be approximately \$. We intend to use the net proceeds from this offering to repay the \$7.1 million aggregate principal amount outstanding of our 9.125% Senior Secured Second Priority Notes due December 15, 2021 and for working capital and general corporate purposes. See “Use of Proceeds” for additional information.</p>
NYSE symbol	<p>Our common stock is listed for trading on the NYSE under the symbol “IO.” There is no established trading market for the warrants and we do not expect a market to develop. In addition, we do not intend to apply for the listing of the warrants on any national securities exchange or other trading market. Without an active trading market, we expect the liquidity of the warrants will be limited.</p>
Risk factors	<p>Investing in our common stock and warrants involves a high degree of risk. See the information included under the heading “Risk Factors” for a discussion of factors that you should carefully consider before deciding to invest in our common stock and warrants.</p>

The number of shares of common stock to be outstanding after this offering is based on 29,637,478 shares outstanding as of July 7, 2021 and excludes:

- Approximately 45,211,284 shares of our common stock issuable upon conversion of our outstanding New Notes, including the additional 6,480,284 shares, which may be issued upon a conversion upon a make whole change in control;
- 408,967 shares of our common stock issuable upon the exercise of our outstanding stock options with a weighted average exercise price of \$32.55 as of July 7, 2021, under our equity plans; and
- 3,650,268 shares of our common stock available for future issuance under our equity plans as of July 7, 2021.

RISK FACTORS

This section describes material risks related to our businesses, including the Restructuring Transactions, and those related to the offering, our common stock, and warrants that currently are known to us. You should carefully consider all of the information in this Prospectus and each of the risks described below, together with the other information incorporated by reference in this Prospectus, including the risk factors included in our [Annual Report on Form 10-K for the year ended December 31, 2020](#), and other reports, including our Quarterly Reports on Form 10-Q, we file with the SEC. Any of the following risks and those incorporated by reference could materially and adversely affect our business, financial condition and results of operations and the actual outcome of matters as to which forward-looking statements are made in this Prospectus. There may be additional risks and uncertainties that we do not currently know or that we do not currently believe to be material that may adversely affect our business, financial condition and results of operations in the future, or our common stock.

Risks Related to our Financial Condition and Indebtedness, including our New Notes

We may require additional capital to fund our business and support our growth, and this capital might not be available on terms acceptable to us, if at all, or may be available only by diluting existing stockholders. Any inability to generate or obtain such capital on terms acceptable to us may adversely affect our operating results and financial condition.

In order to support our growth and respond to any potential business challenges, including the need to improve our operating infrastructure, expand the markets in which we operate and potentially acquire complementary businesses and technologies, we have made significant financial investments in our business and we intend to continue to make such investments. As a result, we may need to engage in additional equity or debt financings to provide the funds required for these investments and other business endeavors.

If we raise additional funds through future equity or convertible debt issuances, our existing stockholders could suffer significant dilution, and any new equity securities we issue could have rights, preferences, and privileges that are superior to those of holders of our shares of common stock.

If we are able to obtain additional funds through debt financing, we may not be able to obtain such financing on terms favorable to us. Such terms may involve restrictive covenants limiting our ability to engage in capital raising activities and other financial and operational matters, including the ability to pay dividends and pursue business opportunities, including potential acquisitions.

The trading prices of technology companies, especially in the E&P industry and E&P logistics, have been highly volatile as a result of the COVID-19 pandemic, which may reduce our ability to access capital on favorable terms or at all. In addition, a recession, depression, or other sustained adverse market event resulting from the spread of the COVID-19 pandemic could adversely affect our business and the value of our shares of common stock.

If we are unable to obtain adequate financing or financing on terms satisfactory to us when we require it, our ability to continue to support our business growth and to respond to potential business challenges could be significantly impaired and our business may be adversely affected, which can potentially require us to delay, reduce, or eliminate some or all of our operations.

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

We have a substantial amount of indebtedness. Prior to the Exchange Offer and Rights Offering and as of March 31, 2021, we had approximately \$142.0 million of total outstanding indebtedness, consisting primarily of approximately \$120.6 million Existing Second Lien Notes, \$21.3 million outstanding under our Credit Facility, \$0.8 million of equipment finance leases and other short-term debt, which is partially offset by \$0.7 million of debt issuance costs. After the completion of the Restructuring Transactions, we had \$116.2 million of New Notes and \$7.1 million of Existing Second Lien Notes outstanding. We may also need to issue additional equity or incur additional indebtedness to provide the funds required to support our growth and respond to business challenges.

If we raise additional funds through future issuances of equity or convertible debt securities, our existing stockholders could suffer significant dilution, and any new equity securities we issue could have rights, preferences, and privileges superior to those of holders of shares of common stock.

Any debt financing that we may secure in the future could involve restrictive covenants relating to our capital raising activities and other financial and operational matters, which may make it more difficult for us to obtain additional capital and to pursue business opportunities, including potential acquisitions.

Our high level of indebtedness could have negative consequences to us, including:

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

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

We may not be able to obtain additional financing on terms favorable to us, if at all. If we are unable to obtain adequate financing or financing on terms satisfactory to us when we require it, our ability to continue to support our business growth and to respond to business challenges and opportunities could be significantly impaired, and our business may be adversely affected.

We may not be able to generate sufficient cash flow to meet our debt service obligations.

Our ability to make payments on our indebtedness, including the New Notes and the remaining Existing Second Lien Notes outstanding after the Restructuring Transactions, and to fund planned capital expenditures will depend on our ability to generate cash in the future. This, to a certain extent, is subject to conditions in the oil and gas industry, the COVID-19 pandemic, general economic and financial conditions and the impact of legislative and regulatory actions on how we conduct our business and other factors, all of which are beyond our control.

We cannot assure you that our business will generate sufficient cash flow from operations to service our outstanding indebtedness, or that future borrowings will be available to us in an amount sufficient to enable us to pay our indebtedness or to fund our other capital needs. If our business does not generate sufficient cash flow from operations to service our outstanding indebtedness, we may have to undertake alternative financing plans, such as:

- refinancing or restructuring our debt;

- selling assets; or
- seeking to raise additional capital.

However, we cannot assure you that we would be able to implement alternative financing plans, if necessary, on commercially reasonable terms or at all, or that implementing any such alternative financing plans would allow us to meet our debt obligations. In addition, any failure to make scheduled payments of interest and principal on our outstanding indebtedness, including the New Notes, would likely result in a reduction of our credit rating, which could harm our ability to incur additional indebtedness on acceptable terms.

Our inability to generate sufficient cash flow to satisfy our debt obligations, including our obligations under the New Notes, or to obtain alternative financings, could materially and adversely affect our business, financial condition, results of operations and prospects.

Despite our current level of indebtedness, we may incur substantially more debt.

We may incur substantial additional indebtedness in the future, subject to certain limitations, including under our Credit Facility and the New Notes Indenture. If new indebtedness is added to our current debt levels, the related risks that we now face could increase. Our level of indebtedness could, for instance, prevent us from engaging in transactions that might otherwise be beneficial to us or from making desirable capital expenditures. This could put us at a competitive disadvantage relative to other less leveraged competitors that have more cash flow to devote to their operations. In addition, the incurrence of additional indebtedness could make it more difficult to satisfy our existing financial obligations, including those relating to the New Notes. Furthermore, the New Notes Indenture permits us to incur up to \$75 million of priority debt (inclusive of borrowings under the Credit Facility). If we incur any additional indebtedness that ranks prior to the New Notes, the holders of such indebtedness will be entitled to receive proceeds distributed in connection with any insolvency, liquidation, reorganization, dissolution or other winding up of us before the holders of the New Notes, and if we incur additional indebtedness that ranks equal to the New Notes, the holders of that indebtedness will be entitled to share ratably with you in any proceeds distributed in connection with any insolvency, liquidation, reorganization, dissolution or other winding up of us.

Our Credit Facility and the New Notes Indenture contain a number of restrictive covenants that will limit our ability to finance future operations or capital needs or engage in other business activities that may be in our interest.

Our Credit Facility and the New Notes Indenture impose, and the terms of any future indebtedness may impose, operating and other restrictions on us and our subsidiaries. Such restrictions affect or will affect, and in many respects limit or prohibit, among other things, our ability and the ability of our restricted subsidiaries to:

- incur additional indebtedness (including certain capital lease obligations), grant or incur additional liens on our properties, pledge shares of our subsidiaries, enter into certain merger or other change-in-control transactions, enter into certain transactions with our affiliates, make certain sales or other dispositions of assets, make certain investments and acquire other businesses;
- pay cash dividends on our common stock; and
- repurchase and acquire our capital stock.

Our Credit Facility contains other restrictions and covenants which require us to achieve certain financial and operating results and maintain compliance with specified financial ratios. Our ability to comply with these ratios may be affected by events beyond our control. We cannot assure you that we will be able to maintain compliance with these covenants in the future and, if we fail to do so, that we will be able to obtain waivers from the lenders and/or amend the covenants.

The restrictions contained in our Credit Facility and the New Notes Indenture could:

- limit our ability to plan for or react to market or economic conditions or meet capital needs or otherwise restrict our activities or business plans; and

- adversely affect our ability to finance our operations or other capital needs or to engage in other business activities that would be in our interest.

A failure to comply with the restrictions in our Credit Facility or the New Notes Indenture could result in an event of default under our Credit Facility or our New Notes Indenture. Our future operating results may not be sufficient to enable compliance with the covenants in our Credit Facility or New Notes Indenture or to remedy any such default. In addition, in the event of an acceleration, we may not have or be able to obtain sufficient funds to refinance our indebtedness or make any accelerated payments, including those under our Credit Facility or New Notes Indenture. Also, we may not be able to obtain new financing. Even if we were able to obtain new financing, we cannot guarantee that the new financing will be on commercially reasonable terms or terms that are acceptable to us. If we default on our indebtedness, our business, financial condition or results of operations could be materially and adversely affected.

Risks Related to the COVID-19 Pandemic

The COVID-19 pandemic has adversely affected our business; the ultimate effect on our operations and financial condition will depend on future developments that are highly uncertain.

The COVID-19 pandemic has adversely affected the global economy. It has disrupted supply chains, caused downward pressure on stock prices, depressed the demand for many goods and services, and created significant volatility in the financial markets. The pandemic has also resulted in travel restrictions, business closures and other restrictions on movement and interactions in many locations. While demand has been improving, there has been a significant reduction in the demand for oil. If reduced demand continues for a prolonged period, our operations, financial condition, and cash flows may be materially and adversely affected.

Our operations also may be adversely affected if significant portions of our workforce are unable to work effectively, whether because of illness, quarantines, government actions, or other restrictions in connection with the pandemic.

We have already implemented workplace restrictions, including guidance for our employees to work remotely if able, in our offices and work sites for health and safety reasons and are continuing to monitor national, state and local government directives where we have operations. Currently the majority of our workforce is working from home. The extent to which the COVID-19 pandemic will adversely affect our business, results of operations, and financial condition will depend on future developments that are highly uncertain. The course, scope and duration of the pandemic, and actions taken by governmental authorities and other third parties in response to the pandemic, cannot be predicted.

The disruption and uncertainty spurred by COVID-19 has created new avenues for phishing and other cyberattacks, which may impact us to a greater extent as we allow a significant number of our employees to work remotely.

The United States Department of Homeland Security's Cybersecurity and Infrastructure Security Agency has warned that cybercriminals will take advantage of the disruption and uncertainty created by the COVID-19 pandemic in their cyberattacks. Increased exposure of our employees to phishing and other scams by cybercriminals in this environment could increase the risk of malicious software being installed on our system, and increase our risk of surrendering sensitive or confidential information. In response to COVID-19, we have been allowing a significant portion of our workforce to work from home. In line with this response, we have provided employees with expanded remote network access options which enable them to work outside of our physical office locations, and, in this environment, more of our employees use their own personal devices, which can further increase these and other cybersecurity risks. A significant disruption of our information technology systems, unauthorized loss of, or dissemination of, confidential information, or legal claims resulting from our violation of privacy laws, could each have a material adverse effect on our business.

Risks Related to the Operation of our Business

Our business depends on the level of exploration and production activities by the oil and natural gas industry. If capital expenditures by E&P companies decline, typically because of lower price realizations for oil and natural gas, the demand for our services and products would decline and our results of operations would be materially adversely affected.

Demand for our services and products depends upon the level of spending by E&P companies and seismic contractors for exploration and production activities, and those activities depend in large part on oil and gas prices. Spending by our customers on services and products that we provide is highly discretionary in nature, and subject to rapid and material change. Any decline in oil and gas related spending on behalf of our customers could cause alterations in our capital spending plans, project modifications, delays or cancellations, general business disruptions or delays in payment, or non-payment of amounts that are owed to us, any one of which could have a material adverse effect on our financial condition. E&P companies' willingness to explore, develop and produce depends largely upon prevailing industry conditions that are influenced by numerous factors over which our management has no control, such as:

- the supply of and demand for oil and gas;
- the level of prices, and expectations about future prices, of oil and gas;
- the cost of exploring for, developing, producing and delivering oil and gas;
- the expected rates of decline for current production;
- the discovery rates of new oil and gas reserves;
- weather conditions, including hurricanes, that can affect oil and gas operations over a wide area, as well as less severe inclement weather that can preclude or delay seismic data acquisition;
- domestic and worldwide economic conditions;
- public health crises, such as the coronavirus outbreak at the beginning of 2020;
- changes in government leadership;
- 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;
- merger and divestiture activity among oil and gas companies and seismic contractors; and
- compliance by members of OPEC and non-OPEC members, such as Russia, with agreements to cut oil production.

The level of oil and gas exploration and production activity has been volatile in recent years. Trends in oil and gas exploration and development activities have declined, together with demand for our services and products. Any prolonged substantial reduction in oil and gas prices would likely further affect oil and gas production levels and therefore adversely affect demand for the services we provide and products we sell.

Our operating results often fluctuate from period to period as we are subject to cyclical and seasonality factors.

Our industry and the oil and gas industry in general are subject to cyclical fluctuations. Demand for our services and products depends upon spending levels by E&P companies for exploration and production of oil and natural gas and, in the case of new seismic data acquisition, the willingness of those companies to forgo ownership of the seismic data. Capital expenditures by E&P companies for these activities depend upon several factors, including actual and forecasted prices of oil and natural gas and those companies' short-term and strategic plans.

Our operating results are subject to fluctuations from period to period as a result of introducing new services and products, the timing of significant expenses in connection with customer orders, unrealized

sales, levels of research and development activities, the product and service mix of our revenues, the seasonality of our business (with strongest demand typically in the second half of the year) and delays caused by factors beyond our control. Because some of our products are technologically complex and tend to be relatively large investments, we generally experience long sales cycles for these types of products with a series of technical and commercial reviews by our customers and historically incur significant expense at the beginning of these cycles. Our revenues and gross margin can vary widely from period to period due to changes in customer requirements and demand as well as timing of orders and shipments and mix of services and products sold. This uneven pattern makes financial predictions for any given period difficult, increases the risk of unanticipated variations in our quarterly results and financial condition, and places challenges on our inventory management. As a result, if net revenues or gross margins fall below expectations, our results of operations and financial condition will likely be materially adversely affected.

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

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

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

We also face exposure to product liability claims in the event that certain of our products, or certain components manufactured by others that are incorporated into our products, fail to perform to specification, which failure results, or is alleged to result, in property damage, bodily injury and/or death. Marine exploration in particular can present dangerous conditions to those conducting it. Any product liability claims decided adversely against us may have a material adverse effect on our results of operations and cash flows. While we maintain insurance coverage with respect to certain product liability claims, we may not be able to obtain such insurance on acceptable terms in the future, if at all, and any such insurance may not provide adequate coverage against product liability claims. In addition, product liability claims can be expensive to defend and can divert the attention of management and other personnel for significant periods of time, regardless of the ultimate outcome. Furthermore, even if we are successful in defending against a claim relating to our products, claims of this nature could cause our customers to lose confidence in our products and us.

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

We invest significant amounts in acquiring and processing new seismic data to add to our E&P Technology & Services' multi-client data library. The costs of most of these investments are funded by our

customers, with the remainder generally being recovered through future data licensing fees. In 2020, we invested approximately \$27.2 million in our multi-client data library. Our customers generally commit to licensing the data prior to us initiating a new data library acquisition program. However, the aggregate amounts of future licensing fees for this data are uncertain and depend on a variety of factors, including the market prices of oil and gas, customer demand for seismic data in the library, and the availability of similar data from competitors.

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

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

Reductions in demand for our seismic data, or lower revenues of or cash flows from our seismic data, may result in a requirement to increase amortization rates or record impairment charges in order to reduce the carrying value of our data library. In 2020, we wrote down our multi-client data library by \$1.2 million resulting from our quarterly impairment review. These increases or charges, if required, could be material to our operating results for the periods in which they are recorded.

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

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

The majority of our foreign sales are denominated in U.S. dollars. Sales to customer destinations outside of North America represented 92%, 84% and 89% of our consolidated net revenues for 2020, 2019 and 2018, respectively. We believe that export sales will remain a significant percentage of our revenues. U.S. export restrictions affect the types and specifications of products we can export. Additionally, in order to complete certain sales, U.S. laws may require us to obtain export licenses, and we cannot assure you that we will not experience difficulty in obtaining these licenses.

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

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

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.

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

Our business is exposed to risks related to customer concentration. In 2020, we had two customers (BHP and Shell) with sales that exceeded 10% of our consolidated net revenues. In 2019, we had one customer (Petrobras) with sales that each exceeded 10% of our consolidated net revenues and we had two customers (Exxon Mobil and Petrobras) with sales that exceeded 10% of our consolidated net revenues for 2018. Our top five customers together accounted for approximately 55%, 40% and 39% of our consolidated net revenues during 2020, 2019 and 2018. 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.

Any consolidation or strategic change made by our customers may impact the demand for our services and products. The loss of any of our significant customers could materially and adversely affect our results of operations and financial condition.

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

the risk that they may default on their obligations to us. The inability or failure of our significant customers to meet their obligations to us or their insolvency or liquidity may adversely affect our financial results.

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 effectively operate our business.

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 businesses has intensified recently, presenting challenges for us to recruit, train and retain our employees while managing the impact of potential wage inflation and the lack of available qualified labor in some markets where we operate. A well-trained, motivated and adequately-staffed work force has a positive impact on our ability to attract and retain business. Our continued ability to compete effectively depends on our ability to attract new employees and to retain and motivate our existing employees.

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

Certain of our facilities are located in regions of the United States that are susceptible to damage from hurricanes and other weather events.

Future hurricanes or similar natural disasters that impact our facilities may negatively affect our financial position and operating results for those periods. These negative effects may include reduced production, product sales and data processing revenues; costs associated with resuming production; reduced orders for our services and products from customers that were similarly affected by these events; lost market share; late deliveries; additional costs to purchase materials and supplies from outside suppliers; uninsured property losses; inadequate business interruption insurance and an inability to retain necessary staff. To the extent that climate change increases the severity of hurricanes and other weather events, as some have suggested, it could worsen the severity of these negative effects on our financial position and operating results.

Increased regulation and litigation around climate change could negatively impact our business.

Governments and regulatory agencies in the European Union, the United States and other regions, as well as the public, have been increasingly focused on curtailing the emission of carbon dioxide and other greenhouse gases, and on ameliorating their effect on the climate. There are many proposals at the international, national, regional and state levels of government to monitor and limit emissions of greenhouse gases, and these proposals will likely continue to proliferate. One such proposal is the United Nations-sponsored "Paris Agreement," which is a non-binding agreement for nations to limit their greenhouse gas emissions through individually-determined reduction goals every five years after 2020. The United States withdrew from the Paris Agreement under the Trump Administration, but Biden recommitted the United States to it upon assuming office.

There have also been efforts in recent years to encourage sovereign wealth funds, public pension funds, universities, and other investors to avoid investments in companies involved in hydrocarbon exploration and production, and to encourage lenders and other financial services companies to limit or curtail activities with them. These activities could have a material adverse effect on our share price, on our ability to secure financing, and on our ability to generate revenue.

We could also face climate-related litigation with respect to our operations or products. A number of cities, local governments and other plaintiffs have sought to bring suit against companies involved in hydrocarbon exploration and production, alleging, among other things, that such companies contribute to climate change, or that the companies have been aware of the adverse effects of climate change for some time but defrauded their investors by failing to adequately disclose those impacts. While we are not a party to any such litigation, we could be named in actions making similar allegations. An unfavorable ruling in any such case could significantly impact our operations and could have an adverse impact on our financial condition.

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

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

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

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

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

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

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

Our sales have historically been affected by interest rate fluctuations and the availability of liquidity, and we and our customers would be adversely affected by increases in interest rates or liquidity constraints. This could have a material adverse effect on our business, results of operations, financial condition and cash flows.

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

We derived approximately 92% of our 2020 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. We operate in a wide variety of jurisdictions, including the United Kingdom, Brazil, Mexico, China, Canada, Russia, the United Arab Emirates, Egypt and other countries. Certain of these countries have experienced geopolitical instability, economic problems and other uncertainties from time to time. To the extent that world events or economic conditions negatively affect our future sales to customers in these and other regions of the world, or the collectability of receivables, our future results of operations, liquidity and financial condition may be adversely affected.

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

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

As a technology-focused company, we are continually exposed to risks related to complex, highly technical services and products that are sometimes operated in dangerous marine environments.

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

The markets for our services and products are characterized by changing technology and new product introductions. We must invest substantial capital to develop and maintain a leading edge in technology, with no assurance that we will receive an adequate rate of return on those investments. If we are unable to develop and produce successfully and timely new or enhanced services and products, we will be unable to compete in the future and our business, our results of operations and our financial condition will be materially and adversely affected. Our business could suffer from unexpected developments in technology, or from our failure to adapt to these changes. In addition, the preferences and requirements of customers can change rapidly.

The businesses of our E&P Technology & Services segment and Optimization Software & Services group within our Operations Optimization segment, being more concentrated in software, processing services and proprietary technologies, have also exposed us to various risks that these technologies typically encounter, including the following:

- future competition from more established companies entering the market;
- technology obsolescence;
- dependence upon continued growth of the market for seismic data processing;

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

Seismic data acquisition and data processing technologies historically have progressed rather rapidly and we expect this progression to continue. In order to remain competitive, we must continue to invest additional capital to maintain, upgrade and expand our seismic data acquisition and processing capabilities. However, due to potential advances in technology and the related costs associated with such technological advances, we may not be able to fulfill this strategy, thus possibly affecting our ability to compete. New data acquisition or processing technologies may be developed. New and enhanced services and products introduced by one of our competitors may gain market acceptance and, if not available to us, may adversely affect us.

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

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

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

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

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

Much of our litigation in recent years have involved disputes over ours and others' rights to technology.

In July 2018, we prevailed in an arbitration that we initiated against the Indian Directorate General of Hydrocarbons ("DGH") relating to our ability to continue to license data under our IndiaSPAN program. The DGH filed a lawsuit in court in India to vacate the arbitration award; in connection with that lawsuit, we were ordered to escrow approximately \$4.5 million in sales proceeds that we had received in respect of sales from the IndiaSPAN program, pending the outcome of the DGH's challenge to the arbitration award. The DGH's request to vacate the arbitration award is currently scheduled to be heard by the court in India on September 1, 2021. As of the date of this prospectus, we have not escrowed the money. If we are required to escrow the money or the arbitration award is overturned, it could have a material adverse effect on our liquidity and our financial condition.

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

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

Services and products for our business are characterized by rapid technological advances and innovation in hardware performance, software functionality and features, frequent introduction of new services and products, and improvement in price characteristics relative to product and service performance. Among the risks associated with the introduction of new services and products and diversification to new markets are delays in development or manufacturing, variations in costs, customer acceptance, delays in customer purchases, reductions in price or replacing sales of existing products in anticipation of new offerings, write-offs or write-downs of the carrying costs of materials associated with prior generation products, difficulty in predicting customer demand due to competition, risks associated with customer qualification, evaluation of new products, quality issues or other defects that may not be adequately supported by application software and untimely commercialization. In addition, it may be difficult to ensure performance of new services and products in accordance with our revenue, margin and cost estimations and to achieve operational efficiencies embedded in our estimates. If any of these risks materializes or if we do not make an effective transition, our revenues and results of operations, may suffer.

Goodwill and other long-lived assets (multi-client data library and property, plant and equipment) that we have recorded are subject to impairment evaluations. In addition, our product inventory may become obsolete or excessive due to future changes in technology, changes in market demand, or changes in market expectations. Write-downs of these assets may adversely affect our financial condition and results of operations.

Reductions in or an impairment of the value of our goodwill and other long-lived assets would result in additional charges against our earnings, which could have a material adverse effect on our reported results of operations and financial position in future periods. At December 31, 2020, our remaining goodwill, multi-client data library and property, plant and equipment balances were \$19.6 million, \$50.9 million and \$9.5 million, respectively. For 2020, we wrote down our multi-client data library by \$1.2 million resulting

from our quarterly impairment review and recognized goodwill impairment of \$4.2 million resulting from excess book value vs fair value of our Optimization Software & Services reporting unit included within the Operations Optimization segment.

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

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

In addition to the specific regulatory risks discussed elsewhere in this Item 1A. "Risk Factors" section, our operations are subject to other laws, regulations, government policies and product certification requirements worldwide. Changes in such laws, regulations, policies or requirements could affect the demand for our products or services or result in the need to modify our services and products, which may involve substantial costs or delays in sales and could have an adverse effect on our future operating results. Our export activities in particular are subject to extensive and evolving trade regulations. We have multiple product lines and services that are sold in many countries throughout the world. Certain countries, entities and persons 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. Violation of these rules could result in significant penalties. In addition, our operations are subject to numerous local, state and federal laws and regulations in the United States and in foreign jurisdictions concerning the containment and disposal of hazardous materials, the remediation of contaminated properties, and the protection of the environment. These laws have been changed frequently in the past, and there can be no assurance that future changes will not have a material adverse effect on us. In addition, our customers' operations are also significantly impacted by laws and regulations concerning the protection of the environment and endangered species. Consequently, changes in governmental regulations applicable to our customers may reduce demand for our services and products. To the extent that our customers' operations are disrupted by future laws and regulations, our business and results of operations may be materially and adversely affected.

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

Our business is subject to cybersecurity risks and threats.

The secure storage and transmission of confidential information and data, and the ability to reliably utilize our high performance computing infrastructure, are critical elements of our operations. Some of our products and services involve the storage and transmission of sensitive data, owned by us and other parties. If anyone gains improper access to our electronic platforms, networks or databases, they may be able to steal, publish, delete or corrupt our data, and the data of other parties. Breaches of our cybersecurity measures, the deletion or corruption of our files, or the disclosure or unapproved dissemination of proprietary or sensitive information, could expose us and our customers to a risk of loss or misuse of this information, which could result in litigation, liability, and damage to our reputation. All of this could have a material adverse impact on our results of operations, financial condition, and liquidity.

While we operate a security program that is designed to prevent, detect, track and mitigate cyber incidents, we cannot assure you that these measures will be sufficient to protect our business against future attacks. The United States Department of Homeland Security's Cybersecurity and Infrastructure Security Agency has warned that cybercriminals will take advantage of the disruption and uncertainty created by the COVID-19 pandemic in their cyberattacks. Increased exposure of our employees to phishing and other scams by cybercriminals in this environment could increase the risk of malicious software being installed on our system, and increase our risk of surrendering sensitive or confidential information. In response to COVID-19, we have been allowing a significant portion of our workforce to work from home. In line with this response, we have provided employees with expanded remote network access options which enable them to work outside of our physical office locations, and, in this environment, more of our employees use their own personal devices, which can further increase these and other cybersecurity risks.

Existing or future laws and regulations related to greenhouse gases and climate change could have a material adverse effect on our business, results of operations, and financial condition.

Changes in environmental requirements related to greenhouse gases and climate change may negatively impact demand for our services. For example, oil and natural gas exploration and production may decline as a result of environmental requirements. Local, state, and federal agencies have been evaluating climate-related legislation and other regulatory initiatives that would restrict emissions of greenhouse gases in areas in which we conduct business. Because our business depends on the level of activity in the oil and natural gas industry, existing or future laws and regulations related to greenhouse gases and climate change, including incentives to conserve energy or use alternative energy sources, could have a negative impact on our business if such laws or regulations reduce demand for oil and natural gas.

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

Provisions of our certificate of incorporation and bylaws, Delaware law and the terms of our investor rights agreement with BGP may have the effect of discouraging, delaying or preventing a merger or acquisition that our stockholders may consider favorable, including transactions in which you might otherwise receive a premium for shares of our common stock. These provisions include:

- authorizing the issuance of "blank check" preferred stock without any need for action by stockholders;
- requiring supermajority stockholder voting to effect certain amendments to our certificate of incorporation and bylaws;
- eliminating the ability of stockholders to call special meetings of stockholders;
- prohibiting stockholder action by written consent; and
- establishing advance notice requirements for nominations for election to the board of directors or for proposing matters that can be acted on by stockholders at stockholder meetings.

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

Our stock price has been volatile, declining and increasing from time to time.

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

- the inherent lumpiness and volatility of our customers' spending cycles;
- operating results that vary from the expectations of securities analysts and investors;
- factors influencing the levels of global oil and natural gas exploration and exploitation activities, such as the decline in crude oil prices and changes in oil and gas supply and demand;
- the operating and securities price performance of companies that investors or analysts consider comparable to us;
- actions by rating agencies related to the New Notes; and
- announcements of strategic developments, acquisitions and other material events by us or our competitors.

If the price of our common stock declines, our ability to raise funds through the issuance of equity or otherwise use our common stock as consideration will be reduced. A low price for our equity may negatively impact our ability to access additional debt capital. These factors may limit our ability to implement our operating and growth plans.

If we do not regain compliance with the NYSE's continued listing requirements, our common stock could be delisted, which could negatively affect the Company, the price of our common stock, and the ability to trade our common stock.

On March 30, 2020, the Company received a notice from the New York Stock Exchange (the "NYSE") that the Company is non-compliant with NYSE listing standards because our average market capitalization over a consecutive 30 trading-day period was less than \$50.0 million at the same time that our stockholders' equity was less than \$50.0 million. We submitted a plan to the NYSE to return to compliance with their listing standards, which was accepted on June 19, 2020. If we are unable to comply with our plan or otherwise unable to meet the continued listing standard before by December 9, 2021, we will be subject to delisting from the NYSE.

Delisting our common stock could negatively impact us by, among other things, reducing the liquidity and the value of our common stock; reducing the number of investors willing to invest in our common stock; and negatively impacting our ability to raise equity and other financing. Delisting from the NYSE could also negatively impact our reputation with our customers.

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.

Risks Related to Our Common Stock, Warrants and this Offering

Our ability to use our net operating losses and tax credits to offset future taxable income and taxes may be subject to certain limitations as a result of this offering, and we may not be able to utilize a significant portion of our net operating loss and tax credit carryforwards prior to their expiration.

As of December 31, 2020, we had approximately \$346.0 million in U.S. federal net operating loss carryforwards available to offset future taxable income that will begin to expire in 2034. Additionally we had approximately \$4.7 million of U.S. federal tax credit carryforwards that will begin to expire in 2026. Under Section 382 of the Internal Revenue Code of 1986, as amended (the "Internal Revenue Code"), our ability to utilize net operating loss carryforwards or other tax attributes in any taxable year may be limited if we experience an "ownership change." A Section 382 "ownership change" generally occurs if one or more stockholders or groups of stockholders, who each own at least 5% of our stock, increase their collective ownership by more than 50 percentage points over their lowest ownership percentage within a rolling three-year period. Generally, the annual limitation equals the product of (i) the fair market value of all of our

outstanding equity immediately prior to the ownership change, multiplied by (ii) the applicable federal long-term, tax exempt rate.

We believe this offering is likely to give rise to an “ownership change” for purposes of Section 382 of the Internal Revenue Code. If we experience in the future, one or more Section 382 “ownership changes,” we may not be able to utilize a material portion of our net operating losses and tax credits, even if we achieve profitability. If we are limited in our ability to use our net operating losses and tax credits in future years in which we have taxable income, we will pay more taxes than if we were able to fully utilize our net operating losses. This could materially and adversely affect our results of operations.

The price of our common stock might fluctuate significantly.

Our common stock is listed for trading on the NYSE under the symbol “IO.” Our stock price could be subject to wide fluctuations in response to a variety of factors, including the following:

- actual or anticipated fluctuations in our quarterly financial and operating results;
- our actual or perceived need for additional capital to fund our operations and the potential associated dilution, including as a result of the issuance of warrants in this offering;
- perceptions about our financial stability generally, and relative to our competitors, and our ability to sustain our business operations long term;
- overall performance of the equity markets;
- perceptions about the market acceptance of our products and the recognition of our brand;
- introduction of proposed products or technologies, or announcements of significant contracts, acquisitions or divestitures by us or our competitors;
- the effectiveness of the reverse stock split of our issued and outstanding shares of common stock;
- legislative, political or regulatory developments;
- issuance of securities analysts’ reports or recommendations;
- additions or departures of key personnel;
- threatened or actual litigation and government investigations;
- sale of shares of our common stock by us or members of our management; and
- general economic conditions.

These and other factors might cause the market price of our common stock to fluctuate substantially, which may negatively affect the liquidity of our common stock. In addition, in recent years, the stock market has experienced significant price and volume fluctuations. This volatility has had a significant impact on the market price of securities issued by many companies across many industries. The changes frequently appear to occur without regard to the operating performance of the affected companies. Accordingly, the price of our common stock could fluctuate based upon factors that have little or nothing to do with our company, and these fluctuations could materially reduce the market price of our common stock and the value of the warrants.

Securities class action litigation has often been instituted against companies following periods of volatility in the overall market and in the market price of a company’s securities. This litigation, if instituted against us, could result in substantial costs, divert our management’s attention and resources, and harm our business, operating results and financial condition.

Future sales, or the perception of future sales, of shares of our common stock could materially reduce the market price of our common stock.

Sales of our common stock, or the perception in the market that the holders of a large number of our shares intend to sell such shares, could reduce the market price of our common stock, which would impair our ability to raise future capital through the sale of additional equity securities. A substantial number of the

outstanding shares of our common stock are, and the shares of common stock and warrants sold in this offering upon issuance will be, freely tradable without restriction or further registration under the Securities Act. We had outstanding 29,637,478 shares of common stock as of July 7, 2021, of which approximately 44,834 shares are restricted securities that may be sold only in accordance with the resale restrictions under Rule 144 of the Securities Act. In addition, as of July 7, 2021, we had outstanding options to purchase 408,967 shares of common stock that, if exercised, will result in these additional shares becoming available for sale as well as 45,211,284 shares of our common stock issuable upon conversion of our outstanding New Notes, including the additional 6,480,284 shares which may be issued upon a conversion upon a make-whole change of control. As of July 7, 2021, there were also 3,650,268 shares of our common stock reserved for future grant or issuance under our incentive plan.

Upon the completion of this offering, approximately 7,419,725 shares of our outstanding common stock beneficially owned by our executive officers, directors and certain of our other existing stockholders will be subject to lock-up agreements with the underwriters of this offering that restrict the sale of shares of our common stock by those parties for a period of 60 days after the date of this prospectus. However, all of the shares and warrants sold in this offering and the remaining shares of our common stock outstanding prior to this offering (which include certain shares that are held by our affiliates) will not be subject to lock-up agreements with the underwriters and, except to the extent such shares or warrants are held by our affiliates, will be freely tradable without restriction under the Securities Act. In addition, following the expiration of the 60-day lock up period referenced above, certain holders of shares of our common stock will have the right, subject to various conditions and limitations, to include their shares in registration statements relating to our securities. In addition, these holders are entitled to piggyback registration rights with respect to the registration under the Securities Act of shares of our common stock. Shares of common stock registered under these registration statements can be freely sold in the public market. In the event registration rights are exercised and a large number of shares of common stock are sold in the public market, those sales could reduce the trading price of our common stock.

In the future, we may need to engage in additional equity or debt financing and issue additional securities if we need to raise more capital to provide the funds required to support our growth and respond to business challenges. For example, we previously announced an up to \$10 million “at-the-market” public offering of shares of our common stock, which we have temporarily suspended in contemplation of this offering. Prior to this offering, we had sold no shares of common stock pursuant to our ATM offering and, accordingly, we may sell up to an additional of approximately \$10 million shares of common stock in our ATM offering, subject to the terms of our lock-up agreement with the underwriters. The number of new shares of our common stock issued in connection with raising additional capital could constitute a material portion of the then-outstanding shares of our common stock.

Our decision to issue securities in any future offering will depend on market conditions and other factors beyond our control, which may adversely affect the amount, timing or nature of our future offerings. As a result, holders of our shares of common stock bear the risk that our future offerings may reduce the market price of our shares of common stock and dilute their percentage ownership.

If you purchase our common stock and related warrants in this offering, you will incur immediate and substantial dilution in the book value of your shares.

The combined offering price of shares of our common stock and related warrants is substantially higher than the pro forma net tangible book value per outstanding share of our common stock. You will incur immediate and substantial dilution of \$ per share, representing the difference between the combined public offering price and our pro forma net tangible book value per share as of March 31, 2021, based on the sale of shares of common stock, Series A warrants to purchase shares of common stock and Series B warrants to purchase shares of common stock at a combined public offering price per share of common stock and related warrants of \$, after deducting underwriting discounts and commissions and estimated offering expenses payable by us. As a result of the dilution to investors purchasing shares and warrants in this offering, investors may receive significantly less than the purchase price paid in this offering, if anything, in the event of liquidation.

In addition, from time to time, we have issued, and we expect in the future to issue, additional shares of common stock or securities convertible into our shares of common stock pursuant to a variety of transactions,

including acquisitions. Additional shares of our common stock may also be issued upon exercise of outstanding stock options to purchase our shares of common stock. The issuance by us of additional shares of common stock or securities convertible into our shares of common stock would dilute your ownership of us and the sale of a significant amount of such shares in the public market could adversely affect prevailing market prices of our shares of common stock. Subject to the satisfaction of vesting conditions and the expiration of lockup agreements, shares issuable upon exercise of options will be available for resale immediately in the public market without restriction.

In the future, we expect to obtain financing or to further increase our capital resources by issuing additional shares of our capital stock or offering debt or other equity securities, including senior or subordinated notes, debt securities convertible into equity, or shares of preferred stock. Issuing additional shares of our capital stock, other equity securities, or securities convertible into equity may dilute the economic and voting rights of our existing stockholders, reduce the market price of our shares of common stock, or both. Debt securities convertible into equity could be subject to adjustments in the conversion ratio pursuant to which certain events may increase the number of equity securities issuable upon conversion. Preferred stock, if issued, could have a preference with respect to liquidating distributions or a preference with respect to dividend payments that could limit our ability to pay dividends to the holders of our common stock. Our decision to issue securities in any future offering will depend on market conditions and other factors beyond our control, which may adversely affect the amount, timing or nature of our future offerings. As a result, holders of our shares of common stock bear the risk that our future offerings may reduce the market price of our shares of common stock and dilute their percentage ownership.

We do not intend to pay cash dividends.

We have never declared or paid cash dividends on our capital stock. We currently intend to retain all available funds and any future earnings for use in the operation and expansion of our business and do not anticipate paying any cash dividends in the foreseeable future. Accordingly, you may have to sell some or all of your shares of our common stock in order to generate cash flow from your investment. You may not receive a gain on your investment when you sell their shares of our common stock and may lose the entire amount of your investment.

There is no public market for the warrants to purchase shares of our common stock being offered in this offering.

There is no established public trading market for the warrants being offered in this offering, and we do not expect a market to develop. In addition, we do not intend to apply for the listing of the warrants on any national securities exchange or other trading market. Without an active market, we expect the liquidity of the warrants will be limited.

Holders of our warrants will generally not have rights as a common stockholder until such holders exercise their warrants and acquire our common stock.

Except as set forth in the warrants, holders of warrants acquire shares of our common stock upon exercise of the warrants, holders of warrants will generally not have rights with respect to the shares of our common stock underlying such warrants. Upon exercise of the warrants, the holders thereof will be entitled to exercise the rights of a common stockholder only as to matters for which the record date occurs after the exercise date.

Due to the speculative nature of warrants, there is no guarantee that it will ever be profitable for investors in the offering to exercise their warrants.

Investors in this offering may exercise their right to acquire the shares of common stock underlying their Series A warrants at any time after the date of issuance by paying an exercise price of \$ _____ per share (which is equal to 15% of the public offering price of the shares being offered pursuant to this prospectus), prior to their expiration on the date that is five years from the date of issuance, after which date any unexercised Series A warrants will expire and have no further value. Investors in this offering may exercise their right to acquire the shares of common stock underlying their Series B warrants at any time after the date of issuance by paying an exercise price of \$ _____ per share (which is equal to 100% of the

public offering price of the shares being offered pursuant to this prospectus), prior to their expiration on the date that is six months from the date of issuance, after which date any unexercised Series B warrants will expire and have no further value. There can be no assurance that the market price of our common stock will ever equal or exceed the exercise price of the warrants, and, consequently, whether it will ever be profitable for investors to exercise their warrants.

Significant holders or beneficial holders of our common stock may not be permitted to exercise warrants that they hold.

The terms of the warrants offered hereby prohibit a holder from exercising its warrants if doing so would result in such holder (together with such holder's affiliates) beneficially owning more than 4.99% (which threshold may be decreased or increased, but not above 9.99%, at the election of the holder upon prior written notice to us) of the number of shares of common stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the warrants. As a result, you may not be able to exercise your warrants for shares of our common stock at a time when it would be financially beneficial for you to do so. In such circumstance, you could seek to sell your warrants to realize value, but you may be unable to do so.

We have broad discretion to determine how to use the funds raised in this offering, and may use them in ways that may not enhance our operating results or the price of our common stock.

Our management will have broad discretion over the use of proceeds from this offering, and we could spend the proceeds from this offering in ways our stockholders and warrant holders may not agree with or that do not yield a favorable return. We intend to use the net proceeds of this offering for working capital, to pay off the \$7.1 million in Existing Second Lien Notes, and other general corporate purposes. However, our use of these proceeds may differ substantially from our current plans. If we do not invest or apply the proceeds of this offering in ways that improve our operating results, we may fail to achieve expected financial results, which could cause our stock price to decline.

USE OF PROCEEDS

We estimate that the net proceeds to us from our sale of _____ shares of common stock and warrants in this offering, after deducting the underwriting discounts and commissions and estimated offering expenses payable by us, will be approximately \$ _____. This amount does not give effect to any exercise of the warrants being offered and issued in this offering.

We currently intend to use the net proceeds of this offering to repay the \$7.1 million aggregate principal amount outstanding of our 9.125% Senior Secured Second Priority Notes due December 15, 2021 and for working capital and general corporate purposes. Our management will have broad discretion in the allocation of the net proceeds of this offering for any purpose, and investors will be relying on the judgment of our management with regard to the use of these net proceeds.

MARKET FOR OUR COMMON STOCK

Market Price for our Common Stock

Our common stock is quoted on the NYSE under the symbol “IO.” As of July 7, 2021, there were approximately 200 stockholders of record holding 29,637,478 shares of our common stock. This number does not include an indeterminate number of stockholders whose shares are held by brokers in street name.

Dividend Policy

Our board of directors presently intends to retain all earnings for use in our business and, therefore, does not anticipate paying any cash dividends on our common stock in the foreseeable future. The declaration of dividends on our common stock, if any, in the future would be subject to the discretion of our board of directors, our results of operations, financial condition, capital needs, liquidity, and acquisition strategy, among other factors.

DIVIDEND POLICY

Our board of directors presently intends to retain all earnings for use in our business and, therefore, does not anticipate paying any cash dividends on our common stock in the foreseeable future. The declaration of dividends on our common stock, if any, in the future would be subject to the discretion of our board of directors, our results of operations, financial condition, capital needs, liquidity, and acquisition strategy, among other factors.

DILUTION

If you invest in our common stock and warrants in this offering, your ownership interest will be diluted to the extent of the difference between the combined offering price per share of our common stock and related warrants in this offering and the pro forma net tangible book value per share of our common stock upon completion of this offering, assuming no value is attributed to the warrants, and such warrants are accounted for and classified as equity. Our historical net tangible book value (deficit) as of March 31, 2021 was \$(88.1) million, or \$(2.97) per share of our common stock. Historical net tangible book value (deficit) per share is determined by our total tangible assets (total assets less intangible assets) less total liabilities by the number of our outstanding shares of common stock.

Investors purchasing in this offering will incur immediate and substantial dilution. After giving effect to the sale of shares of common stock and warrants offered in this offering at a combined offering price of \$ per share and related warrants, and after deducting the underwriting discount and estimated offering expenses payable by us, our pro forma net tangible book value as of , 2021, would have been \$ million, or \$ per share of our common stock. This represents an immediate increase in net tangible book value of \$ per share to existing stockholders, and an immediate dilution of \$ per share to investors purchasing in this offering.

The following table illustrates this dilution on a per share basis:

Public offering price per share and related warrants	\$
Net tangible book value per share as of March 31, 2021	\$(2.97)
Increase in as adjusted net tangible book value per share attributable to this offering	\$
Pro forma net tangible book value per share after this offering	\$
Dilution per share to new investors purchasing in this offering	\$

The number of shares of common stock to be outstanding after this offering is based on 29,637,478 shares of common stock outstanding as of July 7, 2021, and excludes the following shares:

- Approximately 45,211,284 shares of our common stock issuable upon conversion of our outstanding New Notes, including the additional 6,480,284 shares which may be issued upon a conversation upon a make whole change in control;
- 408,967 shares of our common stock issuable upon the exercise of outstanding stock options with a weighted average exercise price of \$32.55 as of July 7, 2021, under our equity plans; and
- 3,650,268 shares of our common stock available for future issuance under our equity plans as of July 7, 2021.

In addition, for purposes of the above presentation, we have assumed that no options, warrants or shares of common stock were issued or granted after , 2021 and no outstanding warrants or options were exercised after , 2021.

Our option holders may exercise their respective options in the future or we may make future equity grants under the above-referenced plans. In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans, through the sale of common stock, or securities exercisable for or convertible into common stock. To the extent any of these options are exercised, any new equity awards are issued under the plans, we issue additional shares of common stock (or securities exercisable for or convertible into common stock) in the future, or any of the warrants sold in this offering are exercised, there will be further dilution to investors purchasing in this offering.

DESCRIPTION OF CAPITAL STOCK

We are a Delaware corporation. The total number of shares of all classes of stock that we have authority to issue is 105,000,000, consisting of 100,000,000 shares of common stock, par value \$.01 per share, and 5,000,000 shares of preferred stock, par value \$.01 per share. As of July 7, 2021, we had 29,637,478 shares of common stock and one share of preferred stock outstanding. The following describes our common stock, preferred stock, amended and restated certificate of incorporation (the “Certificate of Incorporation”) and amended and restated bylaws (the “Bylaws”). This description is a summary only. We encourage you to read the complete text of our Certificate of Incorporation and Bylaws, which we have filed or incorporated by reference as exhibits to the registration statement of which this Prospectus is a part.

Common Stock

Holders of our common stock are entitled to one vote per share in the election of directors and on all other matters submitted to a vote of stockholders. Such holders do not have the right to cumulate their votes in the election of directors. The holders of stock having a majority of the voting power of the stock entitled to vote at a stockholders meeting, present in person or represented by proxy, shall constitute a quorum for the transaction of business. In all matters other than the election of directors, if a quorum is present, the affirmative vote of the majority of the votes cast by stockholders present in person or represented by proxy at the meeting and entitled to vote on the subject matter shall be the act of the stockholders. Directors are elected by a plurality of the votes of the shares of common stock present in person or represented by proxy. This means that director nominees receiving the highest number of “for” votes will be elected as directors. Under our Corporate Governance Guidelines, any director nominee who receives a greater number of votes “withheld” from his or her election than votes “for” such election shall promptly tender to the board of directors of the Company (the “Board”) his or her resignation following certification of the results of the stockholder vote. Upon receipt of the resignation, the Governance Committee will consider the resignation offer and recommend to the Board whether to accept it. The Board will act on the Governance Committee’s recommendation within 120 days following certification of the stockholder vote. The Board is responsible for filling vacancies that occur between annual meetings of stockholders. If a vacancy arises, the vacancy is filled by a majority vote of the directors remaining, or, if only one director remains, by such director.

Holders of our common stock have no redemption or conversion rights, no preemptive or other rights to subscribe for our securities and are not entitled to the benefits of any sinking fund provisions. In the event of our liquidation, dissolution or winding-up, holders of our common stock are entitled to share equally and ratably in all of the assets remaining, if any, after satisfaction of all our debts and liabilities, including any preferred liquidation rights of the holders of our preferred stock, if any. Subject to the prior rights and preferences of the holders of our preferred stock, if any, holders of our common stock are entitled to receive dividends when, as and if declared by our board of directors out of funds legally available therefor.

Preferred Stock

Our certificate of incorporation authorizes our board of directors, subject to any limitations prescribed by law, without further stockholder approval, to establish and to issue from time to time one or more classes or series of preferred stock, par value \$.01 per share, covering up to an aggregate of 5,000,000 shares of preferred stock. Each class or series of preferred stock will cover the number of shares and will have preferences, voting powers, qualifications and special or relative rights or privileges determined by the board of directors, subject to any limitations set forth in our certificate of incorporation, which preferences, powers, qualifications, rights and privileges may include, among others, dividend rights, liquidation preferences, voting rights, conversion rights, preemptive rights and redemption rights.

Series A Preferred Stock

ION issued one (1) share of Series A Preferred Stock (the “Series A Preferred Stock”) to UMB Bank, National Association (in its capacity as trustee under the New Notes Indenture, the “Trustee”) to (i) provide certain rights and protections to the holders of the Notes and (ii) allow, under certain circumstances detailed below, the holders to vote on an “as-converted” basis. The Trustee shall take direction from holders of 50.1% of the Notes for any action requiring the consent of the holder of the Series A Preferred Stock or each act on which the holder of the Series A Preferred Stock is entitled to vote.

Following a default or event of default under the New Notes Indenture, the Series A Preferred Stock shall be entitled to vote with the common stock of the Company as a single class and having voting power equal to the number of shares of common stock issuable upon the conversion of the New Notes.

In addition, at all times when the common stock is entitled to vote thereon, the Series A Preferred Stock shall be entitled to vote with the common stock of the Company as a single class and having voting power equal to the number of shares of common stock issuable upon the conversion of the New Notes for any transaction: (a) modifying, amending, supplementing or waiving any provision of the Company's organizational documents; or (b) entering into any merger, consolidation, sale of all or substantially all of the assets of the Company, or other business combination transaction.

The holder of the Series A Preferred Stock shall have the right to appoint two (2) directors to the Board, both of whom shall be independent. The one share of Series A Preferred Stock shall (i) rank *pari passu* in respect of voting rights with respect to the common stock of the Company, (ii) have a liquidation preference equal to \$1.00, (iii) not produce preferred dividends or ordinary dividends, (iv) not be transferable, except to a successor Trustee under the terms of the Notes Indenture, (v) not be convertible into any other class of equity of the Company and (vi) not be granted registration rights. The Series A Preferred Stock shall be governed in all respects by Delaware law.

The Series A Preferred Stock may be redeemed by the Company upon the exercise into common stock of, in the aggregate, 75% or more of the New Notes that were issued on the Closing Date. The redemption price shall be \$1.00.

Warrants

The following is a brief summary of certain terms and conditions of the warrants being offered by this prospectus. The following description is subject in all respects to the provisions contained in the warrants. **You should review the form of Series A warrant to purchase common stock included in Annex I and the form of Series B warrant to purchase common stock included in Annex II for a complete description of the terms and conditions of the Series A warrants and Series B warrants being issued in this offering.**

Form. Each warrant will be issued as an individual warrant agreement to the investor. The warrants will be issued in certificated form.

Exercisability. The Series A warrants are exercisable at any time after the date of their original issuance and ending five years after the date of issuance. The Series B warrants are exercisable at any time after the date of their original issuance and ending six months after the date of issuance. The warrants will be exercisable, at the option of each holder, in whole or in part by delivery to us of a duly executed exercise notice and by payment in full in immediately available funds for the number of shares of common stock purchased upon such exercise. As an alternative to payment in immediately available funds, the holder may, only if at the time of exercise the registration statement is not effective (or the prospectus contained therein is not available for use) in its sole discretion, elect to exercise the warrants through a net share exercise, in which case the holder would receive upon such exercise the net number of shares of common stock determined according to the formula set forth in the warrants. No fractional shares of common stock will be issued in connection with the exercise of warrants. Instead, the number of shares of common stock to be issued will be rounded up to the nearest whole number.

Exercise Price. The exercise price per whole share of our common stock purchasable upon the exercise of the Series A warrants is \$. The exercise price per whole share of our common stock purchasable upon the exercise of the Series B warrants is \$. The exercise price of the warrants is subject to appropriate adjustment in the event of certain stock dividends and distributions payable in shares of Common Stock, stock splits, stock combinations or similar events affecting our common stock. In addition, we may reduce the exercise price of the warrants to any amount and for any period of time deemed appropriate by our Board.

Exercise Limitations. A holder will not have the right to exercise any portion of the warrants if the holder (together with its affiliates) would beneficially own in excess of 4.99% of the number of shares of our common stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the warrants.

Exchange Listing. We do not plan on applying to list the warrants on the NYSE or any other national securities exchange or automated quotation system.

Fundamental Transactions. In the event of a fundamental transaction, as described in the warrants and generally including any reorganization, recapitalization or reclassification of our common stock, the sale, transfer or other disposition of all or substantially all of our properties or assets, our consolidation or merger with or into another person, the acquisition of more than 50% of our outstanding common stock, or any person or group becoming the beneficial owner of 50% of the voting power represented by our outstanding common stock, the holders of the warrants will be entitled to receive upon exercise the kind and amount of securities, cash or other property that the holders would have received had they exercised the warrants immediately prior to such fundamental transaction. In addition, in the event of a fundamental transaction, we or any successor entity shall have the obligation to purchase such warrants from any holder who makes such request within 30 days after the fundamental transaction for an amount of cash as determined in accordance with the Black-Scholes option pricing model described in the warrants.

No Rights as a Stockholder. Except by virtue of such holder's ownership of shares of our common stock, the holder of a warrant does not have the rights or privileges of a holder of our common stock, including any voting rights, until the holder exercises the warrant.

Amendments. The warrants may be amended or supplemented with the prior written consent of holders of the warrants exercisable for a majority of the shares of our common stock then issuable upon exercise of the warrants then outstanding. However, the consent of the holder is required for any amendment that would (i) increase the exercise price or decrease the number of shares of our common stock purchasable upon exercise of such holder's warrant (other than pursuant to the provisions of the warrant), (ii) alter our obligation to issue shares of our common stock upon exercise of such holder's warrant (other than pursuant to the provisions of the warrant), or (iii) treat such holder differently in an adverse way from any other holders of the warrants. No consent of the holders is required for an amendment that would reduce the exercise price pursuant to the provisions of the warrants.

Anti-takeover Effects of Our Certificate of Incorporation and Bylaws

Some provisions of our certificate of incorporation and bylaws contain provisions that could make it more difficult to acquire us by means of a merger, tender offer, proxy contest or otherwise, or to remove our incumbent officers and directors. These provisions, summarized below, are expected to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to encourage persons seeking to acquire control of us to first negotiate with our board of directors.

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

"Fair price" provision for business combinations with certain stockholders.

Our certificate of incorporation prohibits us from engaging in any business combination with a stockholder who beneficially owns 10% or more of our outstanding common stock (an "interested stockholder") unless, subject to certain exceptions, such business combination is approved by the affirmative vote of the holders of not less than 75% of our outstanding common stock, including the affirmative vote of the holders of not less than 66 2/3% of our outstanding common stock not owned, directly or indirectly, by the interested stockholder.

Number of Directors

Our bylaws provide that the number of directors may be changed only by a resolution of the Board. Any amendment to the bylaws with respect thereto adopted by the stockholders would require the affirmative vote of holders of at least 75% of our outstanding common stock.

Vacancies in the Board

Our bylaws provide that the Board is responsible for filling vacancies that occur between annual meetings of stockholders. If a vacancy arises, the vacancy is filled by a majority vote of the directors remaining, or, if only one director remains, by such director.

Stockholder Meetings

Our bylaws provide that a special meeting of stockholders may be called only by our board or by a committee of our Board.

Requirements for Advance Notification of Stockholder Nominations and Proposals

Our Bylaws establish advance notice procedures with respect to stockholder proposals and the nomination of candidates for election as directors, other than nominations made by or at the direction of our board of directors.

Stockholder Action by Written Consent

Our Certificate of Incorporation provides that no action that is required or permitted to be taken by our stockholders may be effected by written consent of stockholders in lieu of a meeting of stockholders. This provision, which may not be amended except by the affirmative vote of holders of at least 75% of the voting power of all then outstanding shares of capital stock entitled to vote generally in the election of directors, voting together as a single class, makes it difficult for stockholders to initiate or effect an action by written consent that is opposed by our Board.

Amendments of the Certificate of Incorporation and Bylaws

Our stockholders may adopt, amend or repeal certain provisions of our Certificate of Incorporation and any provision of our bylaws but only at any regular or special meeting of stockholders by an affirmative vote of holders of at least 75% of the voting power of all then outstanding shares of capital stock entitled to vote generally in the election of directors, voting together as a single class.

These provisions of our Certificate of Incorporation and bylaws could have the effect of discouraging others from attempting hostile takeovers and, as a consequence, they may also inhibit temporary fluctuations in the market price of our common stock that often result from actual or rumored hostile takeover attempts. These provisions may also have the effect of preventing changes in our management. It is possible that these provisions could make it more difficult to accomplish transactions which stockholders may otherwise deem to be in their best interests.

Delaware Anti-Takeover Law

We are incorporated in Delaware and are subject to Section 203 of the Delaware General Corporation Law. In general, Section 203 prevents an “interested stockholder” (defined generally as a person owning 15% or more of a corporation’s outstanding voting stock) from engaging in a “business combination” with a Delaware corporation for three years following the date such person became an interested stockholder, unless (i) before such person became an interested stockholder, the board of directors of the corporation approved the transaction in which the interested stockholder became an interested stockholder or approved the business combination; (ii) upon consummation of the transaction that resulted in the interested stockholder’s becoming an interested stockholder, the interested stockholder owns at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced (excluding stock held by directors who are also officers of the corporation and by employee stock plans that do not provide employees with the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer); or (iii) on or subsequent to the date of the transaction in which such person became an interested stockholder, the business combination is approved by the board of directors of the corporation and authorized at a meeting of the stockholders by the affirmative vote of the holders of two-thirds of the outstanding voting stock of the corporation not owned by the interested stockholder.

Director and Officer Liability and Indemnification

Director Liability

Our Certificate of Incorporation provides that no director shall be personally liable to us or any of our stockholders for monetary damages resulting from breaches of their fiduciary duty as directors, except for:

- for any breach of the director’s duty of loyalty to us or our stockholders;
- for acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law;
- in respect of certain unlawful dividend payments or stock redemptions or repurchases; and
- for any transaction from which the director derives an improper personal benefit.

If Delaware law is amended to authorize corporate action further eliminating or limiting the liability of directors, then, in accordance with our certificate of incorporation, the liability of our directors to us or our stockholders will be eliminated or limited to the fullest extent authorized by Delaware law, as so amended. Any repeal or amendment of provisions of our certificate of incorporation limiting or eliminating the liability of directors, whether by our stockholders or by changes in law, or the adoption of any other provisions inconsistent therewith, will (unless otherwise required by law) be prospective only, except to the extent such amendment or change in law permits us to further limit or eliminate the liability of directors on a retroactive basis.

Director and Officer Indemnification

Our Bylaws provide that we will, to the fullest extent authorized or permitted by applicable law, indemnify our current and former directors and officers, as well as those persons who, while directors or officers of our corporation, are or were serving as directors, officers, employees or agents of another entity, trust or other enterprise, in connection with any threatened, pending or completed proceeding, whether civil, criminal, administrative or investigative, against all expense, liability and loss (including, without limitation, attorney’s fees, judgments, fines, and penalties and amounts paid in settlement) reasonably incurred or suffered by any such person in connection with any such proceeding. Notwithstanding the foregoing, a person eligible for indemnification pursuant to our bylaws will be indemnified by us in connection with a proceeding initiated by such person only if such proceeding was authorized by our board of directors, except for proceedings to enforce rights to indemnification.

The right to indemnification conferred by our Bylaws is a contract right that includes the right to be paid by us the expenses incurred in defending or otherwise participating in any proceeding referenced above in advance of its final disposition, provided, however, that if the Delaware law requires, an advancement of expenses incurred by our officer or director (solely in the capacity as an officer or director of our corporation) will be made only upon delivery to us of an undertaking, by or on behalf of such officer or director, to repay all amounts so advanced if it is ultimately determined that such person is not entitled to be indemnified for such expenses under our Bylaws or otherwise.

The rights to indemnification and advancement of expenses will not be deemed exclusive of any other rights which any person covered by our certificate of incorporation may have or hereafter acquire under law, our certificate of incorporation, our Bylaws, an agreement, vote of stockholders or disinterested directors, or otherwise.

Our Bylaws provide for a right of indemnity to bring a suit in the event a claim for indemnification or advancement of expenses is not paid in full by us within a specified period of time. Our Bylaws also permit us to purchase and maintain insurance, at our expense, to protect us and/or any director, officer, employee or agent of our corporation or another entity, trust or other enterprise against any expense, liability or loss, whether or not we would have the power to indemnify such person against such expense, liability or loss under Delaware law.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Computershare Investor Service.

Market Information

Our common stock is listed on the New York Stock Exchange under the symbol “IO.”

CERTAIN U.S. FEDERAL INCOME TAX CONSIDERATIONS

The following is a description of certain U.S. federal income and estate tax considerations related to the purchase, ownership and disposition of our common stock and warrants that are applicable to U.S. and non-U.S. holders (defined below).

This summary:

- is based on the Code, U.S. federal tax regulations promulgated or proposed under it, or Treasury Regulations, judicial authority and published rulings and administrative pronouncements of the U.S. Internal Revenue Service, or IRS, each as of the date of this prospectus and each of which are subject to change at any time, possibly with retroactive effect;
- is applicable only to holders who hold the shares and warrants as “capital assets” within the meaning of section 1221 of the Code;
- does not discuss the applicability of any U.S. state or local taxes, non-U.S. taxes or any other U.S. federal tax except for U.S. federal income tax; and
- does not address all aspects of U.S. federal income taxation that may be relevant to holders in light of their particular circumstances, including alternative minimum tax considerations, or who are subject to special treatment under U.S. federal income tax laws, including but not limited to:
 - certain former citizens and long-term residents of the United States;
 - banks, financial institutions, or “financial services entities”;
 - insurance companies;
 - tax-exempt organizations;
 - tax-qualified retirement and pension plans;
 - brokers, dealers or traders in securities, commodities or currencies;
 - persons subject to the alternative minimum tax;
 - persons that own or have owned more than 5% of our common stock;
 - persons who hold or receive our common stock pursuant to the exercise of any employee stock option or otherwise as compensation;
 - investors holding our common stock as part of a “straddle,” “hedge,” “conversion transaction,” or other risk-reduction transaction;
 - investors who are an integral part or controlled entity of a foreign sovereign, partnerships or other pass-through entities;
 - real estate investment trusts and regulated investment companies; and
 - “controlled foreign corporations” and “passive foreign investment companies.”

This description constitutes neither tax nor legal advice. Prospective investors are urged to consult their own tax advisors to determine the specific tax consequences and risks to them of purchasing, holding and disposing of our common stock and warrants, including the application to their particular situations of any U.S. federal, state, local and non-U.S. tax laws and of any applicable income tax treaty.

Certain U.S. Federal Income Tax Considerations Applicable to U.S. Holders

U.S. Holder Defined

For purposes of this discussion, a U.S. holder is a beneficial owner of our common stock and warrants that is a “U.S. person” for U.S. federal income tax purposes. A “U.S. person” is any of the following:

- a citizen or resident of the United States for U.S. federal income tax purposes;

- a corporation, or other entity taxable as a corporation for U.S. federal income tax purposes, that was created or organized in or under the laws of the United States or any state thereof or the District of Columbia;
- an estate, the income of which is subject to U.S. federal income tax regardless of its source; or
- a trust if (a) a court within the United States is able to exercise primary supervision over its administration and one or more U.S. persons have the authority to control all substantial decisions of the trust, or (b) the trust has a valid election in effect to be treated as a U.S. person.

If a partnership (or an entity or arrangement treated as a partnership for U.S. federal income tax purposes) owns our common stock and warrants, then the U.S. federal income tax treatment of a partner in that partnership, including a partner that is a U.S. person, generally will depend on the status of the partner and the partnership's activities. Partners and partnerships should consult their own tax advisors with regard to the U.S. federal income tax treatment of an investment in our common stock and warrants.

Allocation of Purchase Price and Characterization of Common Stock and Warrants

The acquisition of the common stock and warrants should be treated for U.S. federal income tax purposes as the acquisition of one share of common stock and one warrant. We intend to treat the acquisition in this manner and assume that you will adopt such treatment for applicable tax purposes. For U.S. federal income tax purposes, each purchaser must allocate the purchase price paid by such holder between the common stock and the warrants based on the relative fair market value of each at the time of issuance. The price allocated to the common stock and the warrants should constitute the shareholder's initial tax basis in such share or warrant.

The foregoing treatment of the common stock and warrants and a holder's purchase price allocation are not binding on the IRS or the courts. Because there are no authorities that directly address instruments that are similar to the common stock and warrants, no assurance can be given that the IRS or the courts will agree with the characterization described above or the discussion below. Accordingly, each prospective investor is urged to consult its tax advisors regarding the tax consequences of an investment in the common stock and warrants. The balance of this discussion assumes that the characterization of the common stock and warrants described above is respected for U.S. federal income tax purposes.

Distributions to U.S. Holders

Distributions of cash or property, if any, paid to a U.S. holder of our common stock will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. Distributions made on our common stock that are treated as dividends generally will be included in your income as ordinary dividend income. With respect to noncorporate taxpayers, such dividends are generally taxed at reduced rates provided certain holding period requirements are satisfied.

Amounts not treated as dividends for U.S. federal income tax purposes will constitute a return of capital and first be applied against and reduce a holder's adjusted tax basis in its common stock, but not below zero. Any excess will be treated as capital gain and will be treated as described under the section titled "— Sale or Taxable Disposition of Common Stock and Warrants by U.S. Holders" below.

Sale or Taxable Disposition of Common Stock and Warrants by U.S. Holders

A U.S. Holder generally will recognize capital gain or loss on the sale or other taxable disposition of our common stock or warrants. Upon the sale, exchange or disposition of our common stock or warrants, you generally will recognize capital gain or loss equal to the difference between (i) the amount of cash and the fair market value of any property received upon the sale or exchange and (ii) your adjusted tax basis in the common stock or warrants. Such capital gain or loss will be long-term capital gain or loss if your holding period in the common stock or warrants is more than one year at the time of the sale, exchange or disposition. Long-term capital gains recognized by certain noncorporate taxpayers will generally be subject to reduced rates of U.S. federal income tax. See "Exercise or Lapse of a Warrant" below for a discussion regarding a U.S. Holder's tax basis in the common stock acquired pursuant to the exercise of a warrant. The deductibility of capital losses is subject to limitations.

Redemption of Common Stock

In the event that a U.S. Holder's common stock is redeemed or if we purchase a U.S. Holder's common stock in an open market transaction (referred to herein as a redemption), the treatment of the redemption for U.S. federal income tax purposes will depend on whether it qualifies as a sale of the common stock under Section 302 of the Code. If the redemption qualifies as a sale of the common stock, the U.S. Holder will be treated as described under "Sale or Taxable Disposition of Common Stock and Warrants by U.S. Holders" above. If the redemption does not qualify as a sale of the common stock, the U.S. Holder will be treated as receiving a distribution with the tax consequences described above under "Distributions to U.S. Holders." Whether a redemption qualifies for sale treatment will depend largely on the total number of our shares treated as held by the U.S. Holder (including any shares constructively owned by the U.S. Holder described in the following paragraph) relative to all of our shares outstanding both before and after such redemption. A redemption of common stock generally will be treated as a sale of the common stock (rather than as a corporate distribution) if such redemption (i) is "substantially disproportionate" with respect to the U.S. Holder, (ii) results in a "complete termination" of the U.S. Holder's interest in us or (iii) is "not essentially equivalent to a dividend" with respect to the U.S. Holder. These tests are explained more fully below.

In determining whether any of the foregoing tests are satisfied, a U.S. Holder takes into account not only our shares actually owned by the U.S. Holder, but also our shares that are constructively owned by it. A U.S. Holder may constructively own, in addition to shares owned directly, shares owned by certain related individuals and entities in which the U.S. Holder has an interest or that have an interest in such U.S. Holder, as well as any shares the U.S. Holder has a right to acquire by exercise of an option, which would generally include common stock which could be acquired pursuant to the exercise of the warrants. In order to meet the substantially disproportionate test, the percentage of our outstanding voting shares actually and constructively owned by the U.S. Holder immediately following the redemption of the common stock must, among other requirements, be less than 80 percent of the percentage of our outstanding voting shares actually and constructively owned by the U.S. Holder immediately before the redemption. There will be a complete termination of a U.S. Holder's interest if either (i) all of our shares actually and constructively owned by the U.S. Holder are redeemed or (ii) all of our shares actually owned by the U.S. Holder are redeemed and the U.S. Holder is eligible to waive, and effectively waives in accordance with specific rules, the attribution of shares owned by certain family members and the U.S. Holder does not constructively own any other shares of ours. The redemption of the common stock will not be essentially equivalent to a dividend if a U.S. Holder's conversion results in a "meaningful reduction" of the U.S. Holder's proportionate interest in us. Whether the redemption will result in a meaningful reduction in a U.S. Holder's proportionate interest in us will depend on the particular facts and circumstances. However, the IRS has indicated in a published ruling that even a small reduction in the proportionate interest of a small minority shareholder in a publicly held corporation who exercises no control over corporate affairs may constitute such a "meaningful reduction." A U.S. Holder should consult with its own tax advisors as to the tax consequences of a redemption by us.

If none of the foregoing tests are satisfied, then the redemption will be treated as a distribution and the tax effects will be as described under "Distributions to U.S. Holders" above. After the application of those rules, any remaining tax basis of the U.S. Holder in the redeemed common stock will be added to the U.S. Holder's adjusted tax basis in its remaining shares, or, if it has none, to the U.S. Holder's adjusted tax basis in its warrants or possibly in other shares constructively owned by it.

Exercise or Lapse of a Warrant

A U.S. Holder generally will not recognize gain or loss upon the acquisition of a share of common stock on the exercise of a warrant for cash. A U.S. Holder's initial tax basis in a share of common stock received upon exercise of the warrant generally will equal the sum of the U.S. Holder's initial investment in the warrant (that is, the portion of the U.S. Holder's purchase price for the common stock and warrants that is allocated to the warrant, as described above under "Allocation of Purchase Price and Characterization of Common Stock and Warrants") and the exercise price. It is unclear whether a U.S. Holder's holding period for a share of common stock received will commence on the date of exercise of the warrant or the day following the date of exercise of the warrant; in either case, the holding period will not include the period during which the U.S. Holder held the warrant. If a warrant is allowed to lapse unexercised, a U.S. Holder generally will recognize a capital loss equal to such holder's tax basis in the warrant.

Medicare Contributions Tax

Certain U.S. holders who are individuals, estates or certain trusts must pay a 3.8% tax on the U.S. person's "net investment income." Net investment income generally includes, among other things, dividend income and net gains from the disposition of our common stock. A U.S. holder that is an individual, estate or trust should consult its tax advisor regarding the applicability of the Medicare tax to its income and gains in respect of its investment in our common stock.

Certain U.S. Federal Income Tax Considerations Applicable to Non-U.S. Holders*Non-U.S. Holder Defined*

For purposes of this discussion, a non-U.S. holder is a beneficial owner of our common stock that is not a "U.S. holder" (as defined under the section titled "U.S. Holder Defined" above).

If a partnership (or an entity or arrangement treated as a partnership for U.S. federal income tax purposes) owns our common stock, then the U.S. federal income tax treatment of a partner, including a partner that is a non-U.S. person, in that partnership generally will depend on the status of the partner and the partnership's activities. Partners and partnerships should consult their own tax advisors with regard to the U.S. federal income tax treatment of an investment in our common stock.

Distributions to Non-U.S. Holders

Distributions of cash or property, if any, paid to a non-U.S. holder of our common stock will constitute "dividends" for U.S. federal income tax purposes to the extent paid out of our current or accumulated earnings and profits, as determined for U.S. federal income tax purposes. If the amount of a distribution exceeds both our current and accumulated earnings and profits, such excess will first constitute a nontaxable return of capital, which will reduce the holder's tax basis in our common stock, but not below zero. Any excess will be treated as gain from the sale of our common stock and will be treated as described under the section titled "— Sale or Taxable Disposition of Common Stock by Non-U.S. Holders" below.

Subject to the following paragraphs, dividends on our common stock generally will be subject to U.S. federal withholding tax at a 30% gross rate, subject to any exemption or lower rate as may be specified by an applicable income tax treaty. We may withhold up to 30% of either (i) the gross amount of the entire distribution, even if the amount of the distribution is greater than the amount constituting a dividend, as described above or (ii) the amount of the distribution we project will be a dividend, based upon a reasonable estimate of both our current and our accumulated earnings and profits for the taxable year in which the distribution is made. If tax is withheld on the amount of a distribution in excess of the amount constituting a dividend, then you may obtain a refund of that excess amount by timely filing a claim for refund with the IRS. Any such distributions will also be subject to the discussion below under the section titled "Foreign Account Tax Compliance Act Considerations."

To claim the benefit of a reduced rate of or an exemption from U.S. federal withholding tax under an applicable income tax treaty, a non-U.S. holder will be required (i) to satisfy certain certification requirements, which may be made by providing us or our agent with a properly executed and completed IRS Form W-8BEN (for individuals) or W-8BEN-E (for entities) certifying, under penalty of perjury, that the holder qualifies for treaty benefits and is not a U.S. person or (ii) if our common stock is held through certain non-U.S. intermediaries, to satisfy the relevant certification requirements of the applicable Treasury Regulations. Special certification and other requirements apply to certain non-U.S. holders that are pass-through entities. Non-U.S. holders that do not timely provide us or our paying agent with the required certification, but that qualify for a reduced treaty rate, may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS. Non-U.S. holders should consult their tax advisors regarding their entitlement to benefits under an applicable income tax treaty.

Dividends that are effectively connected with the conduct of a trade or business by the non-U.S. holder within the United States (and, if required by an applicable income tax treaty, are attributable to a permanent establishment, or a fixed base in the case of an individual non-U.S. holder, that is maintained by the non-U.S. holder in the United States) ("effectively connected dividends") are not subject to the U.S. federal withholding tax, provided that the non-U.S. holder certifies, under penalty of perjury, that the dividends paid

to such holder are effectively connected dividends on a properly executed and completed IRS Form W-8ECI (or other applicable form). Instead, any such dividends will be subject to U.S. federal income tax on a net income basis in a manner similar to that which would apply if the non-U.S. holder were a U.S. person.

Corporate non-U.S. holders who receive effectively connected dividends may also be subject to an additional “branch profits tax” at a gross rate of 30% on their earnings and profits for the taxable year that are effectively connected with the holder’s conduct of a trade or business within the United States, subject to any exemption or reduction provided by an applicable income tax treaty.

Sale or Taxable Disposition of Common Stock or Warrants by Non-U.S. Holders

Any gain realized on the sale, exchange or other taxable disposition of our common stock or warrants generally will not be subject to U.S. federal income tax unless:

- the gain is effectively connected with the conduct of a trade or business by the non-U.S. holder within the United States (and, if required by an applicable income tax treaty, is attributable to a permanent establishment, or fixed base in the case of an individual non-U.S. holder, that is maintained by the non-U.S. holder in the United States);
- the non-U.S. holder is an individual who is present in the United States for 183 days or more in the taxable year of that disposition, and certain other conditions are met; or
- we are or have been a “United States real property holding corporation” for U.S. federal income tax purposes at any time during the shorter of the five-year period ending on the date of such disposition and the non-U.S. holder’s holding period in our common stock.

A non-U.S. holder described in the first or second bullet point above generally will be subject to U.S. federal income tax on the net gain derived from the sale or disposition under regular graduated U.S. federal income tax rates as if the holder were a U.S. person. If the non-U.S. holder is a corporation, then the gain may also, under certain circumstances, be subject to the “branch profits” tax, which was discussed above.

With respect to the third bullet point, although there can be no assurance, we believe we are not, have not been and will not become a “United States real property holding corporation” for U.S. federal income tax purposes. In the event that we are or become a United States real property holding corporation at any time during the applicable period described in the third bullet point above, any gain recognized on a sale or other taxable disposition of our common stock or warrants may be subject to U.S. federal income tax, including any applicable withholding tax, if (i) the non-U.S. holder beneficially owns, or has owned, more than 5% of our common stock at any time during the applicable period or (ii) our common stock ceases to be regularly traded on an “established securities market” within the meaning of the Code. Non-U.S. holders who intend to acquire more than 5% of our common stock are encouraged to consult their tax advisors with respect to the U.S. tax consequences of a disposition of our common stock or warrants.

The U.S. federal income tax treatment of a Non-U.S. Holder’s receipt of common stock upon the exercise of a warrant held by a Non-U.S. Holder generally will correspond to the U.S. federal income tax treatment of the receipt of a common stock on the exercise of a warrant by a U.S. Holder, as described under “U.S. Holders — Exercise or Lapse of a Warrant,” above.

Any proceeds from the disposition of our common stock or warrant will also be subject to the discussion below under the section titled “Foreign Account Tax Compliance Act Considerations.”

Federal Estate Tax

Common stock owned or treated as owned by an individual who is a non-U.S. holder at the time of his or her death generally will be included in the individual’s gross estate for U.S. federal estate tax purposes and may be subject to U.S. federal estate tax unless an applicable estate tax treaty provides otherwise.

Information Reporting and Backup Withholding

Information returns will be filed with the IRS in connection with payments of dividends on our common stock and the proceeds from a sale or other disposition of our common stock or warrant. Copies

of information returns may be made available to the tax authorities of the country in which a non-U.S. holder resides or is incorporated under the provisions of a specific treaty or agreement.

You may be subject to backup withholding with respect to dividends paid on our common stock or with respect to proceeds received from a disposition of the shares of our common stock or warrant. Certain holders (including, among others, corporations and certain tax-exempt organizations) are generally not subject to backup withholding. You will be subject to backup withholding if you are not otherwise exempt and you:

- fail to furnish your taxpayer identification number, or TIN, which, for an individual, is ordinarily his or her social security number;
- furnish an incorrect TIN;
- are notified by the IRS that you have failed to properly report payments of interest or dividends; or
- fail to certify, under penalties of perjury, that you have furnished a correct TIN and that the IRS has not notified you that you are subject to backup withholding.

Backup withholding is not an additional tax, but rather is a method of tax collection. You generally will be entitled to credit any amounts withheld under the backup withholding rules against your U.S. federal income tax liability provided that the required information is furnished to the IRS in a timely manner.

A non-U.S. holder may have to comply with certification procedures to establish that it is not a U.S. person in order to avoid information reporting and backup withholding tax requirements. The certification procedures required to claim a reduced rate of withholding under an income tax treaty will satisfy the certification requirements necessary to avoid backup withholding as well. The amount of any backup withholding from a payment to a non-U.S. holder may be allowed as a credit against such holder's U.S. federal income tax liability and may entitle such non-U.S. holder to a refund, provided that the required information is timely furnished to the IRS.

Foreign Account Tax Compliance Act Considerations

The Foreign Account Tax Compliance Act, or FATCA, generally imposes a U.S. federal withholding tax at a rate of 30% on payments of dividends on, and gross proceeds from the sale or other disposition of, our common stock if paid to a foreign entity unless (i) if the foreign entity is a "foreign financial institution," the foreign entity must enter into an agreement with the IRS or, in the case of a foreign financial institution in a jurisdiction that has entered into an intergovernmental agreement with the United States, comply with the requirements of such agreement and undertake certain due diligence, reporting, withholding, and certain certification obligations, (ii) if the foreign entity is not a "foreign financial institution," the foreign entity identifies certain of its U.S. investors, if any, or (iii) the foreign entity is otherwise exempt under FATCA.

Under applicable U.S. Treasury Regulations, withholding under FATCA applies to payments of dividends on our common stock and will apply to payments of gross proceeds from a sale or other disposition of our common stock made on or after January 1, 2019. Under certain circumstances, a non-U.S. holder may be eligible for refunds or credits of the tax. An intergovernmental agreement between the United States and an applicable foreign country may modify the requirements described in this section. Non-U.S. holders should consult their own tax advisors regarding the possible implications of these rules on their investment in our common stock and the entities through which they hold our common stock, including, without limitation, the process and deadlines for meeting the applicable requirements to prevent the imposition of the 30% withholding tax under FATCA.

Possible Legislative Tax Changes

The foregoing summary of federal income tax law reflects provisions of recent legislation. However, because, Treasury Regulations and other official interpretations have not been issued with respect to a number of such provisions, their meaning is uncertain. In addition, legislation has been or may be proposed in Congress that might have a substantial and adverse effect on U.S. and Non-U.S. Holders. U.S. and Non-U.S. Holders should consult with their own professional advisers as to all current and possible future proposals with respect to federal, state and local tax legislation and the effect, if any, that such legislation may

have on an investment in our common stock and warrants. In addition, the U.S. federal income tax rate (and any other applicable tax rates) may increase during the ownership of the common stock and warrants and negatively affect the after-tax returns of the U.S. and Non-U.S. Holders. Among other proposed tax changes, the current U.S. presidential administration has proposed increasing the U.S. corporate income tax from its current 21% rate.

UNDERWRITING

We have entered into an underwriting agreement with the underwriters named below on _____, 2021. Oppenheimer & Co. Inc. is acting as the sole book running manager and representative of the underwriters for this offering. The underwriting agreement provides for the purchase of a specific number of shares of common stock and related warrants by each of the underwriters. The underwriters' obligations are several, which means that each underwriter is required to purchase a specified number of shares and related warrants, but is not responsible for the commitment of any other underwriter to purchase shares and related warrants. If an underwriter defaults, the underwriting agreement provides that the purchase commitments of the nondefaulting underwriters may be increased or the underwriting agreement may be terminated.

We are offering the securities described in this prospectus through Oppenheimer & Co. Inc. as sole book-running manager of the offering. We have entered into an underwriting agreement with the underwriters named below. Subject to the terms and conditions of the underwriting agreement, we have agreed to sell to the underwriters, and the underwriters have agreed to purchase, at the public offering price less the underwriting discounts and commissions set forth on the cover page of this prospectus, the number of shares of common stock and the related warrants listed next to its name in the following table:

Name	Number of Shares	Number of Series A Warrants	Number of Series B Warrants
Oppenheimer & Co. Inc.	11,000,000	5,500,000	11,000,000
Total	<u>11,000,000</u>	<u>5,500,000</u>	<u>11,000,000</u>

Each underwriter is committed to purchase all the shares of common stock and the related warrants offered by us if it purchases any such securities.

Discounts and Commissions

Each underwriter proposes to offer the shares of common stock and the related warrants directly to the public at the public offering price set forth on the cover page of this prospectus. After the public offering of the securities, the offering price and other selling terms may be changed by the underwriter. The underwriter may offer the shares of common stock and related warrants to securities dealers at the public offering price less a concession not in excess of \$ _____ per share.

The following table shows the underwriting discounts and commissions to be paid to the underwriters in connection with this offering.

	Per share of Common Stock Series A Warrant and Series B Warrant	Total
Public offering price	\$ _____	\$ _____
Underwriting discount and commission	\$ _____	\$ _____

We estimate that our expenses associated with the offering, excluding the estimated underwriting discount and commission, will be approximately \$ _____. We have also agreed to pay certain reasonable and documented costs and expenses of the underwriters, including the reasonable fees and disbursements of underwriters' counsel, provided that such legal fees may not exceed \$ _____.

Indemnification of Underwriters

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act of 1933.

No Sales of Similar Securities

Subject to certain exceptions set forth in the underwriting agreement, we, our executive officers and directors, and certain of our other existing stockholders have agreed not to sell or transfer any common

stock or securities convertible into, exchangeable for, exercisable for, or repayable with common stock, for 60 days after the date of this prospectus without first obtaining the written consent of Oppenheimer & Co. Inc.

Specifically, we and these other persons have agreed, with certain limited exceptions, not to directly or indirectly:

- offer, pledge, sell or contract to sell any common stock,
- sell any option or contract to purchase any common stock,
- purchase any option or contract to sell any common stock,
- grant any option, right or warrant for the sale of any common stock,
- lend or otherwise dispose of or transfer any common stock,
- request or demand that we file a registration statement related to the common stock, or
- enter into any swap or other agreement that transfers, in whole or in part, the economic consequence of ownership of any common stock whether any such swap or transaction is to be settled by delivery of shares or other securities, in cash or otherwise.

This lock-up provision applies to common stock and to securities convertible into or exchangeable or exercisable for or repayable with common stock. It also applies to common stock owned now or acquired later by the person executing the agreement or for which the person executing the agreement later acquires the power of disposition. See also “Risk Factors — Risks Related to our Common Stock, our Warrants and this Offering — Future sales, or the perception of future sales, of shares of our common stock could materially reduce the market price of our common stock.”

Listing

Our common stock is listed on the NYSE under the symbol “IO.” There is no established public trading market for the warrants and we do not expect a market to develop.

Price Stabilization

The underwriters have advised us that they do not intend to conduct any stabilization or over-allotment activities in connection with this offering.

Determination of Public Offering Price and Warrant Exercise Price

The actual public offering of the securities we are offering has been negotiated between us and the investors in the offering based on the trading of our shares of common stock prior to the offering, among other things. Other factors considered in determining the public offering price of the securities we are offering include our history and prospects, our business plans for the future and the extent to which they have been implemented, an assessment of our management, the general conditions of the securities markets at the time of the offering and such other factors as were deemed relevant.

Electronic Delivery of Preliminary Prospectus

A prospectus in electronic format may be delivered to potential investors by one or more of the underwriters participating in this offering. The prospectus in electronic format will be identical to the paper version of such preliminary prospectus. Other than the prospectus in electronic format, the information on any underwriter’s website and any information contained in any other website maintained by an underwriter is not part of this prospectus, the accompanying prospectus or the registration statement of which this prospectus and the accompanying prospectus forms a part.

Affiliations

The underwriters and their affiliates have provided in the past and may provide from time to time in the future certain commercial banking, financial advisory, investment banking and other services for us and

our affiliates in the ordinary course of their business, for which they may receive customary fees and commissions. In addition, from time to time, the underwriters and their affiliates may effect transactions for their own accounts or the accounts of customers, and hold on behalf of themselves or their customers, long or short positions in our debt or equity securities or loans, and may do so in the future.

Selling Restrictions

European Economic Area

In relation to each Member State of the European Economic Area (each a “Relevant State”), no shares of common stock or related warrants have been offered or will be offered pursuant to the offering to the public in that Relevant State prior to the publication of a prospectus in relation to the shares of common stock and related warrants which has been approved by the competent authority in that Relevant State or, where appropriate, approved in another Relevant State and notified to the competent authority in that Relevant State, all in accordance with the Prospectus Regulation), except that offers of Shares may be made to the public in that Relevant State at any time under the following exemptions under the Prospectus Regulation:

- a. to any legal entity which is a qualified investor as defined under the Prospectus Regulation;
- b. to fewer than 150 natural or legal persons (other than qualified investors as defined under the Prospectus Regulation), subject to obtaining the prior consent of Oppenheimer & Co. Inc. for any such offer; or
- c. in any other circumstances falling within Article 1(4) of the Prospectus Regulation,

provided that no such offer of shares of common stock or related warrants shall require the Company or any underwriter to publish a prospectus pursuant to Article 3 of the Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the Prospectus Regulation.

Each person in a Relevant State (other than a Relevant State where there is a Permitted Public Offer) who initially acquires any shares of common stock and related warrants or to whom any offer is made will be deemed to have represented, acknowledged and agreed to and with the Company and the underwriters that it is a qualified investor within the meaning of the Prospectus Regulation.

In the case of any shares of common stock and related warrants being offered to a financial intermediary as that term is used in Article 5(1) of the Prospectus Regulation, each such financial intermediary will be deemed to have represented, acknowledged and agreed that the shares of common stock and related warrants acquired by it in the offer have not been acquired on a non-discretionary basis on behalf of, nor have they been acquired with a view to their offer or resale to, persons in circumstances which may give rise to an offer to the public other than their offer or resale in a Relevant State to qualified investors, in circumstances in which the prior consent of Oppenheimer & Co. Inc. has been obtained to each such proposed offer or resale.

The Company, Oppenheimer & Co. Inc. and their affiliates will rely upon the truth and accuracy of the foregoing representations, acknowledgements and agreements.

For the purposes of this provision, the expression an “offer to the public” in relation to any Shares in any Relevant State means the communication in any form and by any means of sufficient information on the terms of the offer and any shares of common stock and related warrants to be offered so as to enable an investor to decide to purchase or subscribe for any Shares, and the expression “Prospectus Regulation” means Regulation (EU) 2017/1129.

The above selling restriction is in addition to any other selling restrictions set out below.

United Kingdom

In relation to the United Kingdom (“UK”), no shares of common stock and related warrants have been offered or will be offered pursuant to this offering to the public in the UK prior to the publication of a prospectus in relation to the such shares of common stock and related warrants which has been approved by the Financial Conduct Authority in the UK in accordance with the UK Prospectus Regulation and the

FSMA, except that offers of Shares may be made to the public in the UK at any time under the following exemptions under the UK Prospectus Regulation and the FSMA:

- a. to any legal entity which is a qualified investor as defined under the UK Prospectus Regulation;
- b. to fewer than 150 natural or legal persons (other than qualified investors as defined under the UK Prospectus Regulation), subject to obtaining the prior consent of the underwriters for any such offer; or
- c. at any time in other circumstances falling within section 86 of the FSMA,

provided that no such offer of Shares shall require the Company or any underwriter to publish a prospectus pursuant to Section 85 of the FSMA or Article 3 of the UK Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the UK Prospectus Regulation.

Each person in the UK who initially acquires any Shares or to whom any offer is made will be deemed to have represented, acknowledged and agreed to and with the Company and the underwriters that it is a qualified investor within the meaning of the UK Prospectus Regulation.

In the case of any Shares being offered to a financial intermediary as that term is used in Article 5(1) of the UK Prospectus Regulation, each such financial intermediary will be deemed to have represented, acknowledged and agreed that the Shares acquired by it in the offer have not been acquired on a non-discretionary basis on behalf of, nor have they been acquired with a view to their offer or resale to, persons in circumstances which may give rise to an offer to the public other than their offer or resale in the UK to qualified investors, in circumstances in which the prior consent of Oppenheimer & Co. Inc. has been obtained to each such proposed offer or resale.

The Company, the underwriters and their affiliates will rely upon the truth and accuracy of the foregoing representations, acknowledgements and agreements.

For the purposes of this provision, the expression an “offer to the public” in relation to any Shares in the UK means the communication in any form and by any means of sufficient information on the terms of the offer and any Shares to be offered so as to enable an investor to decide to purchase or subscribe for any Shares, the expression “UK Prospectus Regulation” means Regulation (EU) 2017/1129 as it forms part of domestic law by virtue of the European Union (Withdrawal) Act 2018, and the expression “FSMA” means the Financial Services and Markets Act 2000.

In connection with the offering, no underwriter is acting for anyone other than the Company and will not be responsible to anyone other than the Company for providing the protections afforded to their clients nor for providing advice in relation to the offering.

This document is for distribution only to persons who (i) have professional experience in matters relating to investments and who qualify as investment professionals within the meaning of Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (as amended, the “Financial Promotion Order”), (ii) are persons falling within Article 49(2)(a) to (d) (“high net worth companies, unincorporated associations etc.”) of the Financial Promotion Order, (iii) are outside the United Kingdom, or (iv) are persons to whom an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services and Markets Act 2000, as amended (“FSMA”)) in connection with the issue or sale of any securities may otherwise lawfully be communicated or caused to be communicated (all such persons together being referred to as “relevant persons”). This document is directed only at relevant persons and must not be acted on or relied on by persons who are not relevant persons. Any investment or investment activity to which this document relates is available only to relevant persons and will be engaged in only with relevant persons.

Canada

The shares of common stock and related warrants may be sold only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 Prospectus Exemptions or subsection 73.3(1) of the Securities Act (Ontario), and are permitted clients, as defined in National Instrument 31-103 Registration Requirements, Exemptions and Ongoing

Registrant Obligations. Any resale of the shares of common stock and related warrants must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 (or, in the case of securities issued or guaranteed by the government of a non-Canadian jurisdiction, section 3A.4) of National Instrument 33-105 Underwriting Conflicts (NI 33-105), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

The Dubai International Financial Centre

This prospectus supplement relates to an Exempt Offer in accordance with the Offered Securities Rules of the Dubai Financial Services Authority ("DFSA"). This prospectus supplement is intended for distribution only to persons of a type specified in the Offered Securities Rules of the DFSA. It must not be delivered to, or relied on by, any other person. The DFSA has no responsibility for reviewing or verifying any documents in connection with Exempt Offers. The DFSA has not approved this prospectus supplement nor taken steps to verify the information set forth herein and has no responsibility for the prospectus supplement. The shares of common stock and related warrants to which this prospectus supplement relates may be illiquid and/or subject to restrictions on their resale. Prospective purchasers of the shares of common stock and related warrants offered should conduct their own due diligence on the shares of common stock and related warrants. If you do not understand the contents of this prospectus supplement you should consult an authorized financial advisor.

Australia

No placement document, prospectus, product disclosure statement or other disclosure document has been lodged with the Australian Securities and Investments Commission ("ASIC"), in relation to the offering. This prospectus does not constitute a prospectus, product disclosure statement or other disclosure document under the Corporations Act 2001 (the "Corporations Act"), and does not purport to include the information required for a prospectus, product disclosure statement or other disclosure document under the Corporations Act.

Any offer in Australia of the shares of common stock and related warrants may only be made to persons (the "Exempt Investors") who are "sophisticated investors" (within the meaning of section 708(8) of the Corporations Act), "professional investors" (within the meaning of section 708(11) of the Corporations Act) or otherwise pursuant to one or more exemptions contained in section 708 of the Corporations Act so that it is lawful to offer the shares of common stock and related warrants without disclosure to investors under Chapter 6D of the Corporations Act.

The shares of common stock and related warrants applied for by Exempt Investors in Australia must not be offered for sale in Australia in the period of 12 months after the date of allotment under the offering, except in circumstances where disclosure to investors under Chapter 6D of the Corporations Act would not be required pursuant to an exemption under section 708 of the Corporations Act or otherwise or where the offer is pursuant to a disclosure document which complies with Chapter 6D of the Corporations Act. Any person acquiring shares of common stock and related warrants must observe such Australian on-sale restrictions.

This prospectus contains general information only and does not take account of the investment objectives, financial situation or particular needs of any particular person. It does not contain any securities recommendations or financial product advice. Before making an investment decision, investors need to consider whether the information in this prospectus is appropriate to their needs, objectives and circumstances, and, if necessary, seek expert advice on those matters.

Hong Kong

The shares of common stock and related warrants have not been offered or sold and will not be offered or sold in Hong Kong, by means of any document, other than (a) to “professional investors” as defined in the Securities and Futures Ordinance (Cap. 571) of Hong Kong and any rules made under that Ordinance; or (b) in other circumstances which do not result in the document being a “prospectus” as defined in the Companies Ordinance (Cap. 32) of Hong Kong or which do not constitute an offer to the public within the meaning of that Ordinance. No advertisement, invitation or document relating to the shares of common stock and related warrants has been or may be issued or has been or may be in the possession of any person for the purposes of issue, whether in Hong Kong or elsewhere, which is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to shares of common stock and related warrants which are or are intended to be disposed of only to persons outside Hong Kong or only to “professional investors” as defined in the Securities and Futures Ordinance and any rules made under that Ordinance.

Japan

The shares of common stock and related warrants have not been and will not be registered under the Financial Instruments and Exchange Law of Japan (Law No. 25 of 1948, as amended) and, accordingly, will not be offered or sold, directly or indirectly, in Japan, or for the benefit of any Japanese Person or to others for re-offering or resale, directly or indirectly, in Japan or to any Japanese Person, except in compliance with all applicable laws, regulations and ministerial guidelines promulgated by relevant Japanese governmental or regulatory authorities in effect at the relevant time. For the purposes of this paragraph, “Japanese Person” shall mean any person resident in Japan, including any corporation or other entity organized under the laws of Japan.

Singapore

This prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, the shares of common stock and related warrants were not offered or sold or caused to be made the subject of an invitation for subscription or purchase and will not be offered or sold or caused to be made the subject of an invitation for subscription or purchase, and this prospectus or any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the shares of common stock and related warrants, has not been circulated or distributed, nor will it be circulated or distributed, whether directly or indirectly, to any person in Singapore other than (i) to an institutional investor (as defined in Section 4A of the Securities and Futures Act (Chapter 289) of Singapore, as modified or amended from time to time (the “SFA”)) pursuant to Section 274 of the SFA, (ii) to a relevant person (as defined in Section 275(2) of the SFA) pursuant to Section 275(1) of the SFA, or any person pursuant to Section 275(1A) of the SFA, and in accordance with the conditions specified in Section 275 of the SFA, or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where the shares of common stock and related warrants are subscribed or purchased under Section 275 of the SFA by a relevant person which is:

- (a) a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or
- (b) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor,

securities or securities-based derivatives contracts (each term as defined in Section 2(1) of the SFA) of that corporation or the beneficiaries’ rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the shares of common stock and related warrants pursuant to an offer made under Section 275 of the SFA except:

- (a) to an institutional investor or to a relevant person, or to any person arising from an offer referred to in Section 275(1A) or Section 276(4)(i)(B) of the SFA;

- (b) where no consideration is or will be given for the transfer;
- (c) where the transfer is by operation of law; or
- (d) as specified in Section 276(7) of the SFA.

Switzerland

The shares of common stock and related warrants may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange (“SIX”) or on any other stock exchange or regulated trading facility in Switzerland. This document has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this document nor any other offering or marketing material relating to the shares or the offering may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this document nor any other offering or marketing material relating to the offering, the Company, the shares of common stock and related warrants have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of shares of common stock and related warrants will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA (FINMA), and the offer of shares of common stock and related warrants has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes (“CISA”). The investor protection afforded to acquirers of interests in collective investment schemes under the CISA does not extend to acquirers of shares.

Investors are advised to contact their legal, financial or tax advisers to obtain an independent assessment of the financial and tax consequences of an investment in securities.

LEGAL MATTERS

Certain legal matters relating to this offering will be passed upon for us by Winston & Strawn LLP, Houston, Texas. Certain legal matters relating to this offering will be passed upon for the underwriter by Gibson, Dunn & Crutcher LLP, Houston, Texas.

EXPERTS

The audited financial statements and management's assessment of the effectiveness of internal control over financial reporting incorporated by reference in this prospectus and elsewhere in the registration statement have been so incorporated by reference in reliance upon the reports of Grant Thornton LLP, independent registered public accountants, upon the authority of said firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed a registration statement on Form S-1 with the SEC under the Securities Act with respect to the Rights offered by this Prospectus. This Prospectus, which constitutes a part of the registration statement, does not contain all of the information included in the registration statement or the schedules, exhibits and amendments to the registration statement. You should refer to the registration statement and its exhibits and schedules for further information. Statements made in this Prospectus as to any of our contracts, agreements or other documents referred to are not necessarily complete. In each instance, if we have filed a copy of such contract, agreement or other document as an exhibit to the registration statement, you should read the exhibit for a more complete understanding of the matter involved. Each statement regarding a contract, agreement or other document is qualified in all respects by reference to the actual document. Certain information is also incorporated by reference into this Prospectus as described under "*Incorporation of Certain Documents by Reference.*"

You may read and copy information omitted from this Prospectus but contained in the registration statement at the SEC's website at <http://www.sec.gov>.

We are subject to the information and periodic reporting requirements of the Exchange Act, and, in accordance therewith, file periodic reports, proxy statements and other information with the SEC. Such periodic reports, proxy statements and other information are available at the website of the SEC referred to above. We also furnish our stockholders with annual reports containing our financial statements audited by an independent registered public accounting firm and quarterly reports containing our unaudited financial information. We maintain a website at www.iongeo.com. You may access our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports, filed or furnished pursuant to section 13(a) or 15(d) of the Exchange Act with the SEC free of charge at our website as soon as reasonably practicable after this material is electronically filed with, or furnished to, the SEC. The reference to our website or web address does not constitute incorporation by reference of the information contained at that site.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to incorporate by reference the information we file with it. This means that we can disclose information to you by referring you to those documents. The documents that have been incorporated by reference are an important part of the Prospectus, and you should review that information in order to understand the nature of any investment by you in the Rights or the Notes. We are incorporating by reference the documents listed below:

- [Our Annual Report on Form 10-K, as amended, for the fiscal year ended December 31, 2020, as filed on February 12, 2021;](#)
- The information responsive to part III of our [Annual Report on Form 10-K for the year ended December 31, 2020](#) provided in our [definitive proxy statement on Schedule 14A, as filed on May 14, 2021](#).
- [Our Quarterly Report on Form 10-Q for the quarter ended March 31, 2021, as filed on May 6, 2021;](#)
- The information included in our Current Reports on Form 8-K as filed on [February 11, 2021](#), [February 12, 2021](#), [February 18, 2021](#), [February 24, 2021](#), [February 26, 2021](#), [March 10, 2021](#), [March 23, 2021](#), [March 25, 2021](#), [April 6, 2021](#), [April 22, 2021](#), [April 26, 2021](#), [May 7, 2021](#), and [June 25, 2021](#); and
- Any filing we make with the SEC under Sections 13(a), 13(c), 14, or 15(d) of the Exchange Act, on or after the date of the initial registration statement of which this Prospectus forms a part and prior to effectiveness of such registration statement.

Upon request, we will provide to each person, including any beneficial owner, to whom this Prospectus is delivered, a copy of any or all of the reports or documents that have been incorporated by reference into this Prospectus. If you would like a copy of any of these documents, at no cost, please write or call us at:

ION Geophysical Corporation
2105 CityWest Blvd., Suite 100
Houston, TX 77042
(281) 933-3339
Attn: Investor Relations

Each document or report filed by us (other than information furnished rather than filed) pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act after (i) the date of the initial registration statement and prior to effectiveness of the registration statement; and (ii) the date of this Prospectus and prior to the termination or completion of the offering of the securities shall be deemed to be incorporated by reference into this Prospectus and to be a part of this Prospectus from the date of filing of such document, unless otherwise provided in the relevant document. Any statement contained herein, or in a document all or a portion of which is incorporated or deemed to be incorporated by reference herein, shall be deemed to be modified or superseded for purposes of the registration statement and this Prospectus to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of the registration statement or this Prospectus.

Any statement contained in a document which is incorporated by reference in this Prospectus is automatically updated and superseded if information contained in the Prospectus or a subsequently filed report modifies or replaces this information.

PART II — INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution

Set forth below are the expenses expected to be incurred in connection with the issuance and distribution of the securities registered hereby and payable by us. With the exception of the SEC registration fee, the amounts set forth below are estimates.

	Amount
SEC registration fee	\$
Blue Sky fees	\$
Printing and engraving expenses	\$
Fees and expenses of legal counsel	\$
Accounting fees and expenses	\$
Warrant Agent fees	\$
Miscellaneous	\$
Total	\$

Item 14. Indemnification of Officers and Directors

Section 145 of the General Corporation Law of the State of Delaware, or the DGCL, permits a corporation to indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that he is or was a director, officer, employee or agent of the corporation or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by him in connection with such action.

In an action brought to obtain a judgment in the corporation's favor, whether by the corporation itself or derivatively by a stockholder, the corporation may only indemnify for expenses, including attorneys' fees, actually and reasonably incurred in connection with the defense or settlement of such action, and the corporation may not indemnify for amounts paid in satisfaction of a judgment or in settlement of the claim.

In any such action, no indemnification may be paid in respect of any claim, issue or matter as to which such person shall have been adjudged liable to the corporation except as otherwise approved by the Delaware Court of Chancery or the court in which the claim was brought. In any other type of proceeding, the indemnification may extend to judgments, fines and amounts paid in settlement, actually and reasonably incurred in connection with such other proceeding, as well as to expenses (including attorneys' fees).

The statute does not permit indemnification unless the person seeking indemnification has acted in good faith and in a manner he reasonably believed to be in, or not opposed to, the best interests of the corporation and, in the case of criminal actions or proceedings, the person had no reasonable cause to believe his conduct was unlawful. There are additional limitations applicable to criminal actions and to actions brought by or in the name of the corporation. The determination as to whether a person seeking indemnification has met the required standard of conduct is to be made (i) by a majority vote of a quorum of disinterested members of the board of directors, (ii) by independent legal counsel in a written opinion, if such a quorum does not exist or if the disinterested directors so direct, or (iii) by the stockholders.

Our certificate of incorporation provides that directors shall have no personal liability to the Company or its stockholders for monetary damages for breach of fiduciary duty as a director to the maximum extent permitted by the DGCL. Our bylaws provide that we will indemnify our directors, officers, employees and agents against certain liabilities that they may incur in their capacities as directors, officers, employees and agents to the maximum extent permitted by the DGCL. We have director and officer liability insurance policies that provide coverage of up to \$70 million.

Item 15. Recent Sales of Unregistered Securities

None.

Item 16. Exhibits and Financial Statement Schedules

Reference is made to the Exhibit Index following the signature pages hereto, which Exhibit Index is hereby incorporated by reference into this item.

Item 17. Undertakings

The undersigned registrant hereby undertakes:

(a) that, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof;

(b) to remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering;

(c) that, for purposes of determining liability under the Securities Act to any purchaser in the initial distribution of the securities, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) Any preliminary Prospectus or Prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424 (§ 230.424 of this chapter);

(ii) Any free writing Prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;

(iii) The portion of any other free writing Prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and

(iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser;

(d) that, for purposes of determining any liability under the Securities Act, the information omitted from the form of Prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of Prospectus filed by the registrant pursuant to Rule 424(b) (1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective;

(e) that, for the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of Prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof;

(f) that, for purposes of determining any liability under the Securities Act, each filing of the registrant's annual report pursuant to section 13(a) or section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Exchange Act) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof; and

(g) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or

otherwise, the registrant has been advised that in the opinion of the Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable; and in the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

Item 20. Indemnification of Directors and Officers

The registrant is a Delaware corporation. Reference is made to Section 102(b)(7) of the General Corporation Law of the State of Delaware (the “DGCL”), which enables a corporation in its certificate of incorporation to eliminate or limit the personal liability of a director for violations of the director’s fiduciary duty, except:

- for any breach of the director’s duty of loyalty to the corporation or its stockholders;
- for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law;
- pursuant to Section 174 of the DGCL (providing for liability of directors for unlawful payment of dividends or unlawful stock purchases or redemptions); or
- for any transaction from which a director derived an improper personal benefit.

Reference is also made to Section 145 of the DGCL, which provides that a corporation may indemnify any persons, including officers and directors, who are, or are threatened to be made, parties to any threatened, pending or completed legal action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of such corporation), by reason of the fact that such person is or was a director, officer, employee or agent of such corporation or is or was serving at the request of such corporation as a director, officer, employee or agent of another corporation or enterprise. The indemnity may include expenses (including attorneys’ fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding, provided such director, officer, employee or agent acted in good faith and in a manner the person reasonably believed to be in or not opposed to the best interests of the corporation and, with respect to any criminal action or proceeding, had no reasonable cause to believe that the person’s conduct was unlawful. A Delaware corporation may indemnify officers and directors in an action by or in the right of the corporation under the same conditions, except that no indemnification is permitted without judicial approval if the officer or director is adjudged to be liable to the corporation. Where an officer or director is successful on the merits or otherwise in the defense of any action referred to above, the corporation must indemnify him or her against the expenses that such officer or director actually and reasonably incurred. The indemnification permitted under the DGCL is not exclusive, and a corporation is empowered to purchase and maintain insurance against liabilities whether or not indemnification would be permitted by statute.

The registrant’s third amended and restated certificate of incorporation and second amended and restated by-laws provide for indemnification of its directors and officers to the fullest extent currently permitted by the DGCL. The registrant also has indemnification agreements with its directors and officers. In addition, the registrant maintains liability insurance for its directors and officers.

EXHIBIT INDEX

Exhibit No.	Description of Exhibit
1.1	Form of Underwriting Agreement**
1.2	Placement Agency Agreement, dated February 16, 2021, between ION Geophysical Corporation and A.G.P./Alliance Global Partners, filed on February 18, 2021 as Exhibit 1.1 to the Company's Current Report on Form 8-K
3.1	Amended and Restated Certificate of Incorporation of ION Geophysical Corporation filed on April 20, 2021 as Exhibit 3.1 to the Company's Current Report on Form 8-K
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
4.1	Specimen Stock Certificate (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed on September 23, 2016).
4.2	Form of Class A Warrant to purchase Common Stock**
4.3	Form of Class B Warrant to purchase Common Stock**
4.5	Indenture, dated as of April 20, 2021, among ION Geophysical Corporation, the Guarantors thereto, UMB Bank, National Association, as trustee and UMB Bank, National Association, as collateral agent filed on April 20, 2021 as Exhibit 4.1 to the Company's Current Report on Form 8-K
4.6	Form of New Note (including in Exhibit 4.5) filed on April 20, 2021 as Exhibit 4.2 to the Company's Current Report on Form 8-K
4.7	First Supplemental Indenture, dated as of April 20, 2021, by and among ION Geophysical Corporation, the Guarantors thereto, Wilmington Savings Fund Society, FSB, as trustee and Wilmington Savings Fund Society, FSB, as collateral agent filed on April 20, 2021 as Exhibit 4.3 to the Company's Current Report on Form 8-K
4.8	Certificate of Designation, Powers, Preferences and Rights of Series A Preferred Stock of ION Geophysical Corporation filed on April 20, 2021 as Exhibit 4.4. to the Company's Current Report on Form 8-K
4.9	Form of Series A Preferred Stock Certificate (included in Exhibit 4.8) filed on April 20, 2021 as Exhibit 4.5 to the Company's Current Report on Form 8-K
4.10	Description of Securities, filed on February 6, 2020 as Exhibit 4.5 to the Company's Annual Report on Form 10-K for the year ended December 31, 2019
4.11	Intercreditor Agreement, dated as of April 28, 2016, by and among PNC Bank, National Association, as first lien representative and first lien collateral agent for the first lien secured parties and Wilmington Savings Fund Society, FSB, as second lien representative and second lien collateral agent for the second lien secured parties and as third lien representative for the third lien secured parties, and U.S. Bank, National Association as third lien collateral agent for the third lien secured parties and acknowledged and agreed to by ION Geophysical Corporation and the other grantors named therein, filed on April 28, 2016 as Exhibit 10.1 to the Company's Current Report on Form 8-K
5.1	Opinion of Winston & Strawn LLP**
10.2	Intercreditor Agreement, dated April 20, 2021, among PNC Bank, National Association and UMB Bank, National Association, filed on April 20, 2021 as Exhibit 10.1 to the Company's Current Report on Form 8-K
10.3	Fourth Amendment to the Revolving Credit and Security Agreement, dated as April 20, 2021, by and among ION Geophysical Corporation, ION Exploration Products (U.S.A.), Inc., I/O Marine Systems Inc., GX Technology Corporation, GX Geoscience Corporation, S. de R.L. de C.V., the financial institutions party thereto as lenders and PNC Bank, National Association as agent for the lenders, filed on April 20, 2021 as Exhibit 10.2 to the Company's Current Report on Form 8-K

Exhibit No.	Description of Exhibit
10.4	<u>First Amendment to the Investment Rights Agreement, dated as of February 22, 2021, by and between ION Geophysical Corporation and BGP Inc., China National Petroleum Corporation, filed February 22, 2021 as Exhibit 1.1 to the Company's Current Report on Form 8-K</u>
10.5	<u>Securities Purchase Agreement, dated February 16, 2021, by and among ION Geophysical Corporation and the purchasers identified on the signature pages thereto, filed February 18, 2021 as Exhibit 10.1 to the Company's Current Report on Form 8-K</u>
10.6	<u>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)</u>
10.7	<u>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</u>
10.8	<u>Sixth Amended and Restated — 2004 Long-Term Incentive Plan, filed as Appendix A to the definitive proxy statement for the 2011 Annual Meeting of Stockholders of ION Geophysical Corporation, filed on April 21, 2011</u>
10.9	<u>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)</u>
10.10	<u>ION Stock Appreciation Rights Plan dated November 17, 2008, filed as Exhibit 10.47 to the Company's Annual Report on Form 10-K for the year ended December 31, 2008</u>
10.11	<u>Stock Purchase Agreement dated as of March 19, 2010, by and between ION Geophysical Corporation and BGP Inc., China National Petroleum Corporation, filed on March 31, 2010 as Exhibit 10.1 to the Company's Current Report on Form 8-K</u>
10.12	<u>Investor Rights Agreement dated as of March 25, 2010, by and between ION Geophysical Corporation and BGP Inc., China National Petroleum Corporation, filed on March 31, 2010 as Exhibit 10.2 to the Company's Current Report on Form 8-K</u>
10.13	<u>Share Purchase Agreement dated as of March 24, 2010, by and among ION Geophysical Corporation, INOVA Geophysical Equipment Limited and BGP Inc., China National Petroleum Corporation, filed on March 31, 2010 as Exhibit 10.3 to the Company's Current Report on Form 8-K</u>
10.14	<u>Joint Venture Agreement dated as of March 24, 2010, by and between ION Geophysical Corporation and BGP Inc., China National Petroleum Corporation, filed on March 31, 2010 as Exhibit 10.4 to the Company's Current Report on Form 8-K</u>
10.15	<u>First Amendment to Credit Agreement and Loan Documents dated May 29, 2012, filed on May 29, 2012 as Exhibit 10.1 to the Company's Current Report on Form 8-K</u>
10.16	<u>Third Amended and Restated 2013 Long-Term Incentive Plan filed on November 1, 2018 as Annex A to the Registrant's Proxy Statement on Schedule 14A</u>
10.17	<u>Revolving Credit and Security Agreement dated as of August 22, 2014 among PNC Bank, National Association, as agent for lenders, the lenders from time to time party thereto, as lenders, and PNC Capital Markets LLC, as lead arranger and bookrunner, with ION Geophysical Corporation, ION Exploration Products (U.S.A.), Inc., I/O Marine Systems, Inc. and GX Technology Corporation, as borrowers, filed on November 6, 2014 as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2014</u>
10.18	<u>First Amendment to Revolving Credit and Security Agreement dated as of August 4, 2015 among PNC Bank, National Association, as lender and agent, the lenders from time to time party thereto, as lenders, with ION Geophysical Corporation, ION Exploration Products (U.S.A.), Inc., I/O Marine Systems, Inc. and GX Technology Corporation, as borrowers, filed on August 6, 2015 as Exhibit 10.1 to the Company's Current Report on Form 8-K</u>

Exhibit No.	Description of Exhibit
10.19	<u>Second Amendment to the Revolving Credit and Security Agreement, dated as of April 28, 2016, among ION Geophysical Corporation and the subsidiary co-borrowers named therein, as borrowers, the financial institutions party thereto, as lenders, and PNC Bank, National Association, as agent for the lenders, filed on April 28, 2016 as Exhibit 10.2 to the Company's Current Report on Form 8-K</u>
10.20	<u>Form of Rights Agreement dated March 1, 2015 issued under the ION Stock Appreciation Rights Plan dated November 17, 2008, filed on May 7, 2015 as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2015</u>
10.21	<u>Form of Rights Agreement dated March 1, 2016 issued under the ION Stock Appreciation Rights Plan Dated November 17, 2008</u>
10.22	<u>Equity Investment Agreement dated December 14, 2017, issued under the Second Amended and Restated 2013 Long-Term Incentive Plan dated December 31, 2016</u>
10.23	<u>Employee Stock Purchase Plan dated May 26, 2010</u>
10.24	<u>Form of Warrant Agreement, filed on February 16, 2018 as Exhibit 10.1 to the Company's Current Report on Form 8-K</u>
10.25	<u>Third Amendment and Joinder to the Revolving Credit and Security Agreement, dated as of August 16, 2018, filed on August 21, 2018 as Exhibit 10.1 to the Company's Current Report on Form 8-K</u>
10.26	<u>ION Stock Appreciation Rights Plan dated November 30, 2018</u>
10.27	<u>Form of Stock Appreciation Rights Agreement dated December 1, 2018 issued under the ION Stock Appreciation Rights Plans dated November 30, 2018</u>
10.28	<u>Form of Restricted Stock Awards Agreement dated December 1, 2018 issued under the Third Amended and Restated 2013 Long-Term Incentive Plan dated November 1, 2018</u>
10.29	<u>Form of First Amendment to Warrant to Purchase Common Stock dated as of February 4, 2019, filed on February 8, 2019 as Exhibit 10.1 to the Company's Current Report on Form 8-K</u>
10.30	<u>Restricted Stock Agreement (Time Based) dated September 1, 2019 between the ION Geophysical Corporation and Christopher T. Usher filed on September 4, 2019 as Exhibit 10.1 to the Company's Current Report on Form 8-K</u>
10.31	<u>Restricted Stock Agreement (Performance Based) dated September 1, 2019 between the ION Geophysical Corporation and Christopher T. Usher filed on September 4, 2019 as Exhibit 10.2 to the Company's Current Report on Form 8-K</u>
10.32	<u>ION and WesternGeco Settlement Agreement dated April 7, 2020 filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q</u>
10.33	<u>Restructuring Support Agreement dated December 23, 2020, by and between ION Geophysical Corporation, the Subsidiary Guarantors, and the Supporting Noteholders filed on December 23, 2020 as Exhibit 10.1 to the Company's Current Report on Form 8-K</u>
10.34	<u>Employment Agreement dated January 27, 2020, between Christopher T. Usher and ION Geophysical Corporation, filed as Exhibit 10.1 to the Company's Current Report on Form 8-K</u>
10.35	<u>Employment Agreement dated December 22, 2020, between ION Geophysical Corporation and Mike Morrison, filed as Exhibit 10.1 to the Company's Current Report on Form 8-K</u>
10.36	<u>Amended and Restated Restructuring Support Agreement dated February 11, 2021, by and between ION Geophysical Corporation, the Subsidiary Guarantors, and the Supporting Noteholders</u>
10.37	<u>Letter Agreement, dated February 11, 2021, by and between ION Geophysical Corporation and Mr. James M. Lapeyre, Jr.</u>
10.38	<u>Restructuring Support Agreement, dated February 11, 2021, by and between ION Geophysical Corporation and PNC Bank, National Association</u>

Exhibit No.	Description of Exhibit
21.1	<u>Subsidiaries of the Company (incorporated by reference to Exhibit 21.1 of the Company's Annual Report on Form 10-K filed on February 12, 2021).</u>
23.1	<u>Consent of Grant Thornton LLP</u>
23.2	Consent of Winston & Strawn LLP (contained in Exhibit 5.1)
24.1	<u>Power of Attorney (included in signature pages)</u>

** To be filed by amendment.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Houston, State of Texas, on July 7, 2021.

ION GEOPHYSICAL CORPORATION

By: /s/ Christopher T. Usher
 Name: Christopher T. Usher
 Title: President & Chief Executive Officer

POWER OF ATTORNEY

We, the undersigned directors and officers of ION Geophysical Corporation a Delaware corporation (the "Company"), do hereby constitute and appoint Christopher T. Usher and Mike Morrison and each and either of them, our true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, to do any and all acts and things in our names and on our behalf in our capacities as directors and/or officers and to execute any and all instruments for us and in our name in the capacities indicated below, which said attorneys and agents may deem necessary or advisable to enable the Company to comply with the Securities Act of 1933, as amended, and any rules, regulations and requirements of the Securities and Exchange Commission, in connection with this registration statement and any subsequent registration statement filed pursuant to Rule 462 under the Securities Act of 1933, as amended, including without limitation any and all amendments (including post-effective amendments) and supplements hereto; and we hereby ratify and confirm all that said attorneys and agents, or either of them, shall do or cause to be done by virtue thereof.

Pursuant to the requirements of the Securities Act, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
<u>/s/ Christopher T. Usher</u> Christopher T. Usher	President, Chief Executive Officer, and Director (Principal Executive Officer)	July 7, 2021
<u>/s/ Michael Morrison</u> Michael Morrison	Executive Vice President and Chief Financial Officer (Principal Financial Officer)	July 7, 2021
<u>/s/ James M. Lapeyre Jr.</u> James M. Lapeyre Jr.	Chairman of the Board of Directors	July 7, 2021
<u>/s/ Mark J. Doran</u> Mark J. Doran	Director	July 7, 2021
<u>/s/ Mike McGovern</u> Mike McGovern	Director	July 7, 2021

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Gary L. Pittman</u> Gary L. Pittman	Director	July 7, 2021
<u>/s/ S. James Nelson, Jr.</u> S. James Nelson, Jr.	Director	July 7, 2021
<u>/s/ John Seitz</u> John Seitz	Director	July 7, 2021
<u>Zhang ShaoHua</u>	Director	

FORM OF SERIES A WARRANT

ION GEOPHYSICAL CORPORATION

WARRANT TO PURCHASE COMMON STOCK

Warrant No.: _____

Number of Shares of Common Stock: _____

Date of Issuance: _____, 2021 ("**Issuance Date**")

ION Geophysical Corporation, a company organized under the laws of Delaware (the "**Company**"), hereby certifies that, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, _____, the registered holder hereof or its permitted assigns (the "**Holder**"), is entitled, subject to the terms set forth below, to purchase from the Company, at the Exercise Price (as defined below) then in effect, at any time or times on or after [●] (the "**Initial Exercisability Date**"), but not after 11:59 p.m., New York time, on the Expiration Date, (as defined below), _____ (_____) ¹ fully paid non-assessable shares of Common Stock (as defined below), subject to adjustment as provided herein (the "**Warrant Shares**"). Except as otherwise defined herein, capitalized terms in this Warrant to Purchase Common Stock (including any Warrants to Purchase Common Stock issued in exchange, transfer or replacement hereof, this "**Warrant**"), shall have the meanings set forth in Section 16. This Warrant is one of the Warrants to Purchase Common Stock (the "**Warrants**") issued pursuant to (i) that certain Underwriting Agreement, dated as of [●], 2021 (the "**Subscription Date**") by and between the Company and Oppenheimer & Co. Inc., (ii) the Company's Registration Statement on Form S-1 (File number 333-[●]) (the "**Registration Statement**") and (iii) the Company's prospectus supplement dated as of [●], 2021.

¹ Insert [●]% of the number of shares of Common Stock purchased pursuant to the Underwriting Agreement.

1. EXERCISE OF WARRANT.

(a) Mechanics of Exercise. Subject to the terms and conditions hereof (including, without limitation, the limitations set forth in Section 1(f)), this Warrant may be exercised by the Holder at any time or times on or after the Initial Exercisability Date, in whole or in part, by delivery (whether via facsimile, electronic mail or otherwise) of a written notice, in the form attached hereto as Exhibit A (the "**Exercise Notice**"), of the Holder's election to exercise this Warrant. Within one (1) Trading Day following the delivery of the Exercise Notice, the Holder shall make payment to the Company of an amount equal to the Exercise Price in effect on the date of such exercise multiplied by the number of Warrant Shares as to which this Warrant is being exercised (the "**Aggregate Exercise Price**") in cash by wire transfer of immediately available funds or, if the provisions of Section 1(d) are applicable, by notifying the Company that this Warrant is being exercised pursuant to a Cashless Exercise (as defined in Section 1(d)). The Holder shall not be required to deliver the original Warrant in order to effect an exercise hereunder, nor shall any ink-original signature or medallion guarantee (or other type of guarantee or notarization) with respect to any Exercise Notice be required. Execution and delivery of the Exercise Notice with respect to less than all of the Warrant Shares shall have the same effect as cancellation of the original Warrant and issuance of a new Warrant evidencing the right to purchase the remaining number of Warrant Shares and the Holder shall not be required to physically surrender this Warrant to the Company until the Holder has purchased all of the Warrant Shares available hereunder and the Warrant has been exercised in full, in which case, the Holder shall surrender this Warrant to the Company for cancellation within five (5) Trading Days of the date on which the final Exercise Notice has been delivered to the Company. On or before the first (1st) Trading Day following the date on which the Holder has delivered the applicable Exercise Notice, the Company shall transmit by facsimile or electronic mail an acknowledgment of confirmation of receipt of the Exercise Notice, in the form attached to the Exercise Notice, to the Holder and the Company's transfer agent (the "**Transfer Agent**"). So long as the Holder delivers the Aggregate Exercise Price (or notice of a Cashless Exercise, if applicable) on or prior to the first (1st) Trading Day following the date on which the Exercise Notice has been delivered to the Company, then on or prior to the earlier of (i) the second (2nd) Trading Day and (ii) the number of Trading Days comprising the Standard Settlement Period, in each case following the date on which the Exercise Notice has been delivered to the Company, or, if the Holder does not deliver the Aggregate Exercise Price (or notice of a Cashless Exercise, if applicable) on or prior to the first (1st) Trading Day following the date on which the Exercise Notice has been delivered to the Company, then on or prior to the first (1st) Trading Day following the date on which the Aggregate Exercise Price (or notice of a Cashless Exercise, if applicable) is delivered (such earlier date, or if later, the earliest day on which the Company is required to deliver Warrant Shares pursuant to this Section 1(a), the "**Share Delivery Date**"), the Company shall (X) provided that the Transfer Agent is participating in The Depository Trust Company ("**DTC**") Fast Automated Securities Transfer Program, credit such aggregate number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the Holder's or its designee's balance account with DTC through its Deposit / Withdrawal At Custodian system, or (Y) if the Transfer Agent is not participating in the DTC Fast Automated Securities Transfer Program, issue and dispatch by overnight courier to the address as specified in the Exercise Notice, a certificate, registered in the name of the Holder or its designee, for the number of Warrant Shares to which the Holder is entitled pursuant to such exercise. The Company shall be responsible for all fees and expenses of the Transfer Agent and all fees and expenses with respect to the issuance of Warrant Shares via DTC, if any, including without limitation for same day processing. Upon delivery of the Exercise Notice, the Holder shall be deemed for all corporate purposes to have become the holder of record and beneficial owner of the Warrant Shares with respect to which this Warrant has been exercised, irrespective of the date such Warrant Shares are credited to the Holder's DTC account or the date of delivery of the certificates evidencing such Warrant Shares, as the case may be. If this Warrant is physically delivered to the Company in connection with any exercise pursuant to this Section 1(a) and the number of Warrant Shares represented by this Warrant submitted for exercise is greater than the number of Warrant Shares being acquired upon an exercise, then the Company shall as soon as practicable and in no event later than three (3) Trading Days after any exercise and at its own expense, issue and deliver to the Holder (or its designee) a new Warrant (in accordance with Section 7(d)) representing the right to purchase the number of Warrant Shares issuable immediately prior to such exercise under this Warrant, less the number of Warrant Shares with respect to which this Warrant is exercised. No fractional Warrant Shares are to be issued upon the exercise of this Warrant, but rather the number of Warrant Shares to be issued shall be rounded to the nearest whole number. The Company shall pay any and all transfer, stamp, issuance and similar taxes, costs and expenses (including, without limitation, fees and expenses of the Transfer Agent) which may be payable with respect to the issuance and delivery of Warrant Shares upon exercise of this Warrant. The Company's obligations to issue and deliver Warrant Shares in accordance with the terms and subject to the conditions hereof are absolute and unconditional, irrespective of any action or inaction by the Holder to enforce the same, any waiver or consent with respect to any provision hereof, the recovery of any judgment against any Person or any action to enforce the same, or any setoff, counterclaim, recoupment, limitation or termination; provided, however, that the Company shall not be required to deliver Warrant Shares with respect to an exercise prior to the Holder's delivery of the Aggregate Exercise Price (or notice of a Cashless Exercise) with respect to such exercise.

(b) Exercise Price. For purposes of this Warrant, "**Exercise Price**" means \$[●] per share, subject to adjustment as provided herein.

(c) Company's Failure to Timely Deliver Securities. If either (I) the Company shall fail for any reason or for no reason to issue to the Holder on or prior to the applicable Share Delivery Date, if (x) the Transfer Agent is not participating in the DTC Fast Automated Securities Transfer Program, a certificate for the number of shares of Common Stock to which the Holder is entitled and register such Common Stock on the Company's share register or (y) the Transfer Agent is participating in the DTC Fast Automated Securities Transfer Program, to credit the Holder's balance account with DTC, for such number of shares of Common Stock to which the Holder is entitled upon the Holder's exercise of this Warrant or (II) a registration statement (which may be the Registration Statement) covering the issuance or resale of the Warrant Shares that are the subject of the Exercise Notice (the "**Exercise Notice Warrant Shares**") is not available for the issuance or resale, as applicable, of such Exercise Notice Warrant Shares and (x) the Company fails to promptly, but in no event later than one (1) Business Day after such registration statement becomes unavailable, to so notify the Holder and (y) the Company is unable to deliver the Exercise Notice Warrant Shares electronically without any restrictive legend by crediting such aggregate number of Exercise Notice Warrant Shares to the Holder's or its designee's balance account with DTC through its Deposit / Withdrawal At Custodian system (the event described in the immediately foregoing clause (II) is hereinafter referred to as a "**Notice Failure**" and together with the event described in clause (I) above, an "**Exercise Failure**"), then, in addition to all other remedies available to the Holder, if on or prior to the applicable Share Delivery Date either (I) if the Transfer Agent is not participating in the DTC Fast Automated Securities Transfer Program, the Company shall fail to issue and deliver a certificate to the Holder and register such shares of Common Stock on the Company's share register or, if the Transfer Agent is participating in the DTC Fast Automated Securities Transfer Program, credit the Holder's balance account with DTC for the number of shares of Common Stock to which the Holder is entitled upon the Holder's exercise hereunder or pursuant to the Company's obligation pursuant to clause (ii) below or (II) if a Notice Failure occurs, and if after such date the Holder is required by its broker to purchase (in an open market transaction or otherwise) or the Holder's brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Warrant Shares which the Holder anticipated receiving upon such exercise (a "**Buy-In**"), then the Company shall, within five (5) Trading Days after the Holder's request, (A) pay in cash to the Holder the amount, if any, by which (x) the Holder's total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased exceeds (y) the amount obtained by multiplying (1) the number of Warrant Shares that the Company was required to deliver to the Holder in connection with the exercise at issue times (2) the price at which the sell order giving rise to such purchase obligation was executed, and (B) at the option of the Holder, either reinstate the portion of the Warrant and equivalent number of Warrant Shares for which such exercise was not honored (in which case such exercise shall be deemed rescinded) or deliver to the Holder the number of shares of Common Stock that would have been issued had the Company timely complied with its exercise and delivery obligations hereunder. For example, if the Holder purchases Common Stock having a total purchase price of \$11,000 to cover a Buy-In with respect to an attempted exercise of shares of Common Stock with an aggregate sale price giving rise to such purchase obligation of \$10,000, under clause (A) of the immediately preceding sentence the Company shall be required to pay the Holder \$1,000. The Holder shall provide the Company written notice indicating the amounts payable to the Holder in respect of the Buy-In and, upon request of the Company, evidence of the amount of such loss. Nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company's failure to timely deliver shares of Common Stock upon exercise of the Warrant as required pursuant to the terms hereof. The Company's current transfer agent participates in the DTC Fast Automated Securities Transfer Program ("FAST"). In the event that the Company changes transfer agents while this Warrant is outstanding, the Company shall select a transfer agent that participates in FAST. While this Warrant is outstanding, the Company shall cause its transfer agent to participate in FAST with respect to this Warrant. In addition to the foregoing rights, (i) if the Company fails to deliver the applicable number of Warrant Shares upon an exercise pursuant to Section 1 by the applicable Share Delivery Date, then the Holder shall have the right to rescind such exercise in whole or in part and retain and/or have the Company return, as the case may be, any portion of this Warrant that has not been exercised pursuant to such Exercise Notice; provided that the rescission of an exercise shall not affect the Company's obligation to make any payments that have accrued prior to the date of such notice pursuant to this Section 1(c) or otherwise, and (ii) if a registration statement (which may be the Registration Statement) covering the issuance or resale of the Warrant Shares that are subject to an Exercise Notice is not available for the issuance or resale, as applicable, of such Exercise Notice Warrant Shares and the Holder has submitted an Exercise Notice prior to receiving notice of the non-availability of such registration statement and the Company has not already delivered the Warrant Shares underlying such Exercise Notice electronically without any restrictive legend by crediting such aggregate number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the Holder's or its designee's balance account with DTC through its Deposit / Withdrawal At Custodian system, the Holder shall have the option, by delivery of notice to the Company, to (x) rescind such Exercise Notice in whole or in part and retain or have returned, as the case may be, any portion of this Warrant that has not been exercised pursuant to such Exercise Notice; provided that the rescission of an Exercise Notice shall not affect the Company's obligation to make any payments that have accrued prior to the date of such notice pursuant to this Section 1(c) or otherwise, and/or (y) switch some or all of such Exercise Notice from a cash exercise to a Cashless Exercise. In addition to the foregoing, if the Company fails for any reason to deliver to the Holder the Warrant Shares subject to an Exercise Notice by the second Trading Day following the Share Delivery Date, the Company shall pay to the Holder, in cash, as liquidated damages and not as a penalty, for each \$1,000 of Warrant Shares subject to such exercise (based on the Weighted Average Price of the Common Stock on the date of the applicable Exercise Notice), \$10 per Trading Day (increasing to \$20 per Trading Day on the fifth Trading Day after such liquidated damages begin to accrue) for each Trading Day after the second Trading Day following such Share Delivery Date until such Warrant Shares are delivered or Holder rescinds such exercise.

(d) Cashless Exercise. Notwithstanding anything contained herein to the contrary, if a registration statement (which may be the Registration Statement) covering the issuance or resale of the Exercise Notice Warrant Shares is not available for the issuance or resale, as applicable, of such Exercise Notice Warrant Shares, the Holder may, in its sole discretion, exercise this Warrant in whole or in part and, in lieu of making the cash payment otherwise contemplated to be made to the Company upon such exercise in payment of the Aggregate Exercise Price, elect instead to receive upon such exercise the "Net Number" of shares of Common Stock determined according to the following formula (a "**Cashless Exercise**"):

$$\text{Net Number} = \frac{(A \times B) - (A \times C)}{B}$$

For purposes of the foregoing formula:

A= the total number of shares with respect to which this Warrant is then being exercised.

B= as applicable: (i) the Closing Sale Price of the Common Stock on the Trading Day immediately preceding the date of the applicable Exercise Notice if such Exercise Notice is (1) both executed and delivered pursuant to Section 1(a) hereof on a day that is not a Trading Day or (2) both executed and delivered pursuant to Section 1(a) hereof on a Trading Day prior to the opening of "regular trading hours" (as defined in Rule 600(b)(68) of Regulation NMS promulgated under the federal securities laws) on such Trading Day, (ii) at the option of the Holder, either (y) the Weighted Average Price on the Trading Day immediately preceding the date of the applicable Exercise Notice or (z) the Bid Price of the Common Stock as of the time of the Holder's execution of the applicable Exercise Notice if such Exercise Notice is executed during "regular trading hours" on a Trading Day and is delivered within two (2) hours thereafter (including until two (2) hours after the close of "regular trading hours" on a Trading Day) pursuant to Section 1(a) hereof or (iii) the Closing Sale Price of the Common Stock on the date of the applicable Exercise Notice if the date of such Exercise Notice is a Trading Day and such Exercise Notice is both executed and delivered pursuant to Section 1(a) hereof after the close of "regular trading hours" on such Trading Day.

C= the Exercise Price then in effect for the applicable Warrant Shares at the time of such exercise.

If Warrant Shares are issued in such a cashless exercise, the Company acknowledges and agrees that in accordance with Section 3(a)(9) of the Securities Act of 1933, as amended, the Warrant Shares shall take on the registered characteristics of the Warrants being exercised, and the holding period of the Warrants being exercised may be tacked on to the holding period of the Warrant Shares. The Company agrees not to take any position contrary to this Section 1(d). Without limiting the rights of a Holder to receive Warrant Shares on a "cashless exercise," and to receive the cash payments contemplated pursuant to Sections 1(c) and 4(b), in no event will the Company be required to net cash settle a Warrant exercise.

(e) Disputes. In the case of a dispute as to the determination of the Exercise Price or the arithmetic calculation of the Warrant Shares, the Company shall promptly issue to the Holder the number of Warrant Shares that are not disputed and resolve such dispute in accordance with Section 11.

(f) Beneficial Ownership. Notwithstanding anything to the contrary contained herein, the Company shall not effect the exercise of any portion of this Warrant, and the Holder shall not have the right to exercise any portion of this Warrant, pursuant to the terms and conditions of this Warrant and any such exercise shall be null and void and treated as if never made, to the extent that after giving effect to such exercise, the Holder together with the other Attribution Parties collectively would beneficially own in excess of $[4.99][9.99]^2\%$ (the "**Maximum Percentage**") of the number of shares of Common Stock outstanding immediately after giving effect to such exercise. For purposes of the foregoing sentence, the aggregate number of shares of Common Stock beneficially owned by the Holder and the other Attribution Parties shall include the number of shares of Common Stock held by the Holder and all other Attribution Parties plus the number of shares of Common Stock issuable upon exercise of this Warrant with respect to which the determination of such sentence is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (A) exercise of the remaining, unexercised portion of this Warrant beneficially owned by the Holder or any of the other Attribution Parties and (B) exercise or conversion of the unexercised or unconverted portion of any other securities of the Company (including, without limitation, any convertible notes or convertible preferred stock or warrants, including the other Warrants) beneficially owned by the Holder or any other Attribution Party subject to a limitation on conversion or exercise analogous to the limitation contained in this Section 1(f). For purposes of this Section 1(f), beneficial ownership shall be calculated in accordance with Section 13(d) of the Securities Exchange Act of 1934, as amended (the "**1934 Act**"). For purposes of this Warrant, in determining the number of outstanding shares of Common Stock the Holder may acquire upon the exercise of this Warrant without exceeding the Maximum Percentage, the Holder may rely on the number of outstanding shares of Common Stock as reflected in (x) the Company's most recent Annual Report on Form 10-K, Quarterly Report on Form 10-Q and Current Reports on Form 8-K or other public filing with the Securities and Exchange Commission (the "**SEC**"), as the case may be, (y) a more recent public announcement by the Company or (z) any other written notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding (the "**Reported Outstanding Share Number**"). If the Company receives an Exercise Notice from the Holder at a time when the actual number of outstanding shares of Common Stock is less than the Reported Outstanding Share Number, the Company shall (i) notify the Holder in writing of the number of shares of Common Stock then outstanding and, to the extent that such Exercise Notice would otherwise cause the Holder's beneficial ownership, as determined pursuant to this Section 1(f), to exceed the Maximum Percentage, the Holder must notify the Company of a reduced number of Warrant Shares to be purchased pursuant to such Exercise Notice (the number of shares by which such purchase is reduced, the "**Reduction Shares**") and (ii) as soon as reasonably practicable, the Company shall return to the Holder any exercise price paid by the Holder for the Reduction Shares. For any reason at any time, upon the written or oral request of the Holder, the Company shall within one (1) Business Day confirm orally and in writing or by electronic mail to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder and any other Attribution Party since the date as of which the Reported Outstanding Share Number was reported. In the event that the issuance of Common Stock to the Holder upon exercise of this Warrant results in the Holder and the other Attribution Parties being deemed to beneficially own, in the aggregate, more than the Maximum Percentage of the number of outstanding shares of Common Stock (as determined under Section 13(d) of the 1934 Act), the number of shares so issued by which the Holder's and the other Attribution Parties' aggregate beneficial ownership exceeds the Maximum Percentage (the "**Excess Shares**") shall be deemed null and void and shall be cancelled ab initio, and the Holder shall not have the power to vote or to transfer the Excess Shares. As soon as reasonably practicable after the issuance of the Excess Shares has been deemed null and void, the Company shall return to the Holder the exercise price paid by the Holder for the Excess Shares. Upon delivery of a written notice to the Company, the Holder may from time to time increase or decrease the Maximum Percentage to any other percentage not in excess of 9.99% as specified in such notice; provided that (i) any such increase in the Maximum Percentage will not be effective until the sixty-first (61st) day after such notice is delivered to the Company and (ii) any such increase or decrease will apply only to the Holder and the other Attribution Parties and not to any other holder of Warrants that is not an Attribution Party of the Holder. For purposes of clarity, the shares of Common Stock issuable pursuant to the terms of this Warrant in excess of the Maximum Percentage shall not be deemed to be beneficially owned by the Holder for any purpose including for purposes of Section 13(d) or Rule 16a-1(a)(1) of the 1934 Act. No prior inability to exercise this Warrant pursuant to this paragraph shall have any effect on the applicability of the provisions of this paragraph with respect to any subsequent determination of exercisability. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 1(f) to the extent necessary to correct this paragraph or any portion of this paragraph which may be defective or inconsistent with the intended beneficial ownership limitation contained in this Section 1(f) or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitation contained in this paragraph may not be waived and shall apply to a successor holder of this Warrant.

² NTD: To confirm.

(g) Required Reserve Amount. So long as this Warrant remains outstanding, the Company shall at all times keep reserved for issuance under this Warrant a number of shares of Common Stock at least equal to 100% of the maximum number of shares of Common Stock as shall be necessary to satisfy the Company's obligation to issue shares of Common Stock under the Warrants then outstanding (without regard to any limitations on exercise) (the "**Required Reserve Amount**"); provided that at no time shall the number of shares of Common Stock reserved pursuant to this Section 1(g) be reduced other than in connection with any exercise of Warrants or such other event covered by Section 2(c) below. The Required Reserve Amount (including, without limitation, each increase in the number of shares so reserved) shall be allocated pro rata among the holders of the Warrants based on the number of shares of Common Stock issuable upon exercise of Warrants held by each holder thereof on the Issuance Date (without regard to any limitations on exercise) (the "**Authorized Share Allocation**"). In the event that a holder shall sell or otherwise transfer any of such holder's Warrants, each transferee shall be allocated a pro rata portion of such holder's Authorized Share Allocation. Any shares of Common Stock reserved and allocated to any Person which ceases to hold any Warrants shall be allocated to the remaining holders of Warrants, pro rata based on the number of shares of Common Stock issuable upon exercise of the Warrants then held by such holders thereof (without regard to any limitations on exercise).

(h) Insufficient Authorized Shares. If at any time while this Warrant remains outstanding the Company does not have a sufficient number of authorized and unreserved shares of Common Stock to satisfy its obligation to reserve for issuance the Required Reserve Amount (an "**Authorized Share Failure**"), then the Company shall promptly take all action reasonably necessary to increase the Company's authorized shares of Common Stock to an amount sufficient to allow the Company to reserve the Required Reserve Amount for this Warrant then outstanding. Without limiting the generality of the foregoing sentence, as soon as practicable after the date of the occurrence of an Authorized Share Failure, but in no event later than ninety (90) days after the occurrence of such Authorized Share Failure, the Company shall hold a meeting of its stockholders for the approval of an increase in the number of authorized shares of Common Stock. In connection with such meeting, the Company shall provide each stockholder with a proxy statement and shall use its reasonable best efforts to solicit its stockholders' approval of such increase in authorized shares of Common Stock and to cause its board of directors to recommend to the stockholders that they approve such proposal. Notwithstanding the foregoing, if any such time of an Authorized Share Failure, the Company is able to obtain the written consent of a majority of the shares of its issued and outstanding shares of Common Stock to approve the increase in the number of authorized shares of Common Stock, the Company may satisfy this obligation by obtaining such consent and submitting for filing with the SEC an Information Statement on Schedule 14C.

2. ADJUSTMENT OF EXERCISE PRICE AND NUMBER OF WARRANT SHARES. The Exercise Price and the number of Warrant Shares shall be adjusted from time to time as follows:

(a) Intentionally omitted.

(b) Voluntary Adjustment By Company. The Company may at any time during the term of this Warrant reduce the then current Exercise Price to any amount and for any period of time deemed appropriate by the Board of Directors of the Company.

(c) Adjustment Upon Subdivision or Combination of Common Stock. If the Company at any time on or after the Subscription Date subdivides (by any stock split, stock dividend, recapitalization or otherwise) one or more classes of its outstanding shares of Common Stock into a greater number of shares, the Exercise Price in effect immediately prior to such subdivision will be proportionately reduced and the number of Warrant Shares will be proportionately increased. If the Company at any time on or after the Subscription Date combines (by combination, reverse stock split or otherwise) one or more classes of its outstanding shares of Common Stock into a smaller number of shares, the Exercise Price in effect immediately prior to such combination will be proportionately increased and the number of Warrant Shares will be proportionately decreased. Any adjustment under this Section 2(c) shall become effective at the close of business on the date the subdivision or combination becomes effective.

(d) Other Events. If any event occurs of the type contemplated by the provisions of this Section 2 but not expressly provided for by such provisions (including, without limitation, the granting of stock appreciation rights, phantom stock rights or other rights with equity features), then the Company's Board of Directors will make an appropriate adjustment in the Exercise Price and the number of Warrant Shares, as mutually determined by the Company's Board of Directors and the Required Holders, so as to protect the rights of the Holder; provided that no such adjustment pursuant to this Section 2(d) will increase the Exercise Price or decrease the number of Warrant Shares as otherwise determined pursuant to this Section 2.

3. RIGHTS UPON DISTRIBUTION OF ASSETS. In addition to any adjustments pursuant to Section 2 above, if, on or after the Subscription Date and on or prior to the Expiration Date, the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property, options, evidence of indebtedness or any other assets by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction) (a "**Distribution**"), at any time after the issuance of this Warrant, then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations or restrictions on exercise of this Warrant, including without limitation, the Maximum Percentage) immediately before the date on which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution (provided, however, that to the extent that the Holder's right to participate in any such Distribution would result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, then the Holder shall not be entitled to participate in such Distribution to such extent (and shall not be entitled to beneficial ownership of such shares of Common Stock as a result of such Distribution (and beneficial ownership) to such extent) and the portion of such Distribution shall be held in abeyance for the benefit of the Holder until such time or times as its right thereto would not result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, at which time or times the Holder shall be granted such Distribution (and any Distributions declared or made on such initial Distribution or on any subsequent Distribution held similarly in abeyance) to the same extent as if there had been no such limitation).

4. PURCHASE RIGHTS; FUNDAMENTAL TRANSACTIONS.

(a) Purchase Rights. In addition to any adjustments pursuant to Section 2 above, if at any time on or after the Subscription Date and on or prior to the Expiration Date the Company grants, issues or sells any Options, Convertible Securities or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of Common Stock (the "**Purchase Rights**"), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations or restrictions on exercise of this Warrant, including without limitation, the Maximum Percentage) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of Common Stock are to be determined for the grant, issuance or sale of such Purchase Rights (provided, however, that to the extent that the Holder's right to participate in any such Purchase Right would result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, then the Holder shall not be entitled to participate in such Purchase Right to such extent (and shall not be entitled to beneficial ownership of such Common Stock as a result of such Purchase Right (and beneficial ownership) to such extent) and such Purchase Right to such extent shall be held in abeyance for the benefit of the Holder until such time or times as its right thereto would not result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, at which time or times the Holder shall be granted such right (and any Purchase Right granted, issued or sold on such initial Purchase Right or on any subsequent Purchase Right to be held similarly in abeyance) to the same extent as if there had been no such limitation).

(b) Fundamental Transaction. The Company shall not enter into or be party to a Fundamental Transaction unless the Successor Entity assumes in writing all of the obligations of the Company under this Warrant in accordance with the provisions of this Section 4(b), including agreements to deliver to the Holder in exchange for this Warrant a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Warrant, including, without limitation, which is exercisable for a corresponding number of shares of capital stock equivalent to the shares of Common Stock acquirable and receivable upon exercise of this Warrant (without regard to any limitations on the exercise of this Warrant) prior to such Fundamental Transaction, and with an exercise price which applies the exercise price hereunder to such shares of capital stock (but taking into account the relative value of the shares of Common Stock pursuant to such Fundamental Transaction and the value of such shares of capital stock, such adjustments to the number of shares of capital stock and such exercise price being for the purpose of protecting the economic value of this Warrant immediately prior to the consummation of such Fundamental Transaction). Upon the consummation of each Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for the Company (so that from and after the date of the applicable Fundamental Transaction, the provisions of this Warrant and the other Transaction Documents referring to the "Company" shall refer instead to the Successor Entity), and may exercise every right and power of the Company and shall assume all of the obligations of the Company under this Warrant with the same effect as if such Successor Entity had been named as the Company herein. Upon consummation of each Fundamental Transaction, the Successor Entity shall deliver to the Holder confirmation that there shall be issued upon exercise of this Warrant at any time after the consummation of the applicable Fundamental Transaction, in lieu of the shares of Common Stock (or other securities, cash, assets or other property (except such items still issuable under Sections 3 and 4(a) above, which shall continue to be receivable thereafter)) issuable upon the exercise of this Warrant prior to the applicable Fundamental Transaction, such shares of common stock (or its equivalent) of the Successor Entity (including its Parent Entity) which the Holder would have been entitled to receive upon the happening of the applicable Fundamental Transaction had this Warrant been exercised immediately prior to the applicable Fundamental Transaction (without regard to any limitations on the exercise of this Warrant), as adjusted in accordance with the provisions of this Warrant. Notwithstanding the foregoing, and without limiting Section 1(f) hereof, the Holder may elect, at its sole option, by delivery of written notice to the Company to waive this Section 4(b) to permit the Fundamental Transaction without the assumption of this Warrant. In addition to and not in substitution for any other rights hereunder, prior to the consummation of each Fundamental Transaction pursuant to which holders of shares of Common Stock are entitled to receive securities or other assets with respect to or in exchange for shares of Common Stock (a "Corporate Event"), the Company shall make appropriate provision to insure that the Holder will thereafter have the right to receive upon an exercise of this Warrant at any time after the consummation of the applicable Fundamental Transaction but prior to the Expiration Date, in lieu of the shares of the Common Stock (or other securities, cash, assets or other property (except such items still issuable under Sections 3 and 4(a) above, which shall continue to be receivable thereafter)) issuable upon the exercise of the Warrant prior to such Fundamental Transaction, such shares of stock, securities, cash, assets or any other property whatsoever (including warrants or other purchase or subscription rights) (collectively, the "Corporate Event Consideration") which the Holder would have been entitled to receive upon the happening of the applicable Fundamental Transaction had this Warrant been exercised immediately prior to the applicable Fundamental Transaction (without regard to any limitations on the exercise of this Warrant). The provision made pursuant to the preceding sentence shall be in a form and substance reasonably satisfactory to the Holder. The provisions of this Section 4(b) shall apply similarly and equally to successive Fundamental Transactions and Corporate Events. Notwithstanding the foregoing, in the event of a Change of Control, at the request of the Holder delivered before the 30th day after such Change of Control, the Company (or the Successor Entity) shall purchase this Warrant from the Holder by paying to the Holder, within five (5) Business Days after such request (or, if later, on the effective date of the Change of Control), an amount equal to the Black Scholes Value of the remaining unexercised portion of this Warrant on the effective date of such Change of Control, payable in cash; provided, however, that, if the Change of Control is not within the Company's control, including not approved by the Company's Board of Directors, Holder shall only be entitled to receive from the Company or any Successor Entity, as of the date of consummation of such Change of Control, the same type or form of consideration (and in the same proportion), at the Black Scholes Value of the unexercised portion of this Warrant, that is being offered and paid to the holders of Common Stock of the Company in connection with the Change of Control, whether that consideration be in the form of cash, stock or any combination thereof, or whether the holders of Common Stock are given the choice to receive from among alternative forms of consideration in connection with the Change of Control; provided, further, that if holder of Common Stock are not offered or paid any consideration in such Change of Control, such holders of Common Stock will be deemed to have received common stock of the Successor Entity (which entity may be the Company following such Change of Control) in such Change of Control.

5. NONCIRCUMVENTION. The Company hereby covenants and agrees that the Company will not, by amendment of its Amended and Restated Certificate of Incorporation or Amended and Restated Bylaws, or through any reorganization, transfer of assets, consolidation, merger, scheme of arrangement, dissolution, issuance or sale of securities, or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, and will at all times in good faith carry out all of the provisions of this Warrant and take all action as may be required to protect the rights of the Holder. Without limiting the generality of the foregoing, the Company (i) shall not increase the par value of any shares of Common Stock receivable upon the exercise of this Warrant above the Exercise Price then in effect, (ii) shall take all such actions as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable shares of Common Stock upon the exercise of this Warrant, and (iii) shall, so long as any of the Warrants are outstanding, take all action necessary to reserve and keep available out of its authorized and unissued shares of Common Stock, solely for the purpose of effecting the exercise of the Warrants, the number of shares of Common Stock as shall from time to time be necessary to effect the exercise of the Warrants then outstanding (without regard to any limitations on exercise).

6. WARRANT HOLDER NOT DEEMED A STOCKHOLDER. Except as otherwise specifically provided herein, the Holder, solely in such Person's capacity as a holder of this Warrant, shall not be entitled to vote or receive dividends or be deemed the holder of capital stock of the Company for any purpose, nor shall anything contained in this Warrant be construed to confer upon the Holder, solely in such Person's capacity as the Holder of this Warrant, any of the rights of a stockholder of the Company or any right to vote, give or withhold consent to any corporate action (whether any reorganization, issue of stock, reclassification of stock, consolidation, merger, conveyance or otherwise), receive notice of meetings, receive dividends or subscription rights, or otherwise, prior to the issuance to the Holder of the Warrant Shares which such Person is then entitled to receive upon the due exercise of this Warrant. In addition, nothing contained in this Warrant shall be construed as imposing any liabilities on the Holder to purchase any securities (upon exercise of this Warrant or otherwise) or as a stockholder of the Company, whether such liabilities are asserted by the Company or by creditors of the Company. Notwithstanding this Section 6, the Company shall provide the Holder with copies of the same notices and other information given to the stockholders of the Company generally, contemporaneously with the giving thereof to the stockholders.

7. REISSUANCE OF WARRANTS.

(a) Transfer of Warrant. If this Warrant is to be transferred, the Holder shall surrender this Warrant to the Company, whereupon the Company will forthwith issue and deliver upon the order of the Holder a new Warrant (in accordance with Section 7(d)), registered as the Holder may request, representing the right to purchase the number of Warrant Shares being transferred by the Holder and, if less than the total number of Warrant Shares then underlying this Warrant is being transferred, a new Warrant (in accordance with Section 7(d)) to the Holder representing the right to purchase the number of Warrant Shares not being transferred.

(b) Lost, Stolen or Mutilated Warrant. Upon receipt by the Company of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of this Warrant, and, in the case of loss, theft or destruction, of any indemnification undertaking by the Holder to the Company in customary form (but without the obligation to post a bond) and, in the case of mutilation, upon surrender and cancellation of this Warrant, the Company shall execute and deliver to the Holder a new Warrant (in accordance with Section 7(d)) representing the right to purchase the Warrant Shares then underlying this Warrant.

(c) Exchangeable for Multiple Warrants. This Warrant is exchangeable, upon the surrender hereof by the Holder at the principal office of the Company, for a new Warrant or Warrants (in accordance with Section 7(d)) representing in the aggregate the right to purchase the number of Warrant Shares then underlying this Warrant, and each such new Warrant will represent the right to purchase such portion of such Warrant Shares as is designated by the Holder at the time of such surrender.

(d) Issuance of New Warrants. Whenever the Company is required to issue a new Warrant pursuant to the terms of this Warrant, such new Warrant (i) shall be of like tenor with this Warrant, (ii) shall represent, as indicated on the face of such new Warrant, the right to purchase the Warrant Shares then underlying this Warrant (or in the case of a new Warrant being issued pursuant to Section 7(a) or Section 7(c), the Warrant Shares designated by the Holder which, when added to the number of shares of Common Stock underlying the other new Warrants issued in connection with such issuance, does not exceed the number of Warrant Shares then underlying this Warrant), (iii) shall have an issuance date, as indicated on the face of such new Warrant which is the same as the Issuance Date, and (iv) shall have the same rights and conditions as this Warrant.

8. NOTICES. Whenever notice is required to be given under this Warrant, including, without limitation, an Exercise Notice, unless otherwise provided herein, such notice shall be given in writing, (i) if delivered (a) from within the domestic United States, by first-class registered or certified airmail, or nationally recognized overnight express courier, postage prepaid, electronic mail or by facsimile or (b) from outside the United States, by International Federal Express, electronic mail or facsimile, and (ii) will be deemed given (A) if delivered by first-class registered or certified mail domestic, three (3) Business Days after so mailed, (B) if delivered by nationally recognized overnight carrier, one (1) Business Day after so mailed, (C) if delivered by International Federal Express, two (2) Business Days after so mailed and (D) at the time of transmission, if delivered by electronic mail to each of the email addresses specified in this Section 8 prior to 5:00 p.m. (New York time) on a Trading Day, (E) the next Trading Day after the date of transmission, if delivered by electronic mail to each of the email addresses specified in this Section 8 on a day that is not a Trading Day or later than 5:00 p.m. (New York time) on any Trading Day and (F) if delivered by facsimile, upon electronic confirmation of delivery of such facsimile, and will be delivered and addressed as follows:

(i) if to the Company, to:
ION Geophysical Corporation
2105 CityWest Blvd., Suite 100
Houston, TX 77042
Attention: [●]
Facsimile: [●]
Email: [●]

(ii) if to the Holder, at such address or other contact information delivered by the Holder to Company or as is on the books and records of the Company.

The Company shall provide the Holder with prompt written notice of all actions taken pursuant to this Warrant, including in reasonable detail a description of such action and the reason therefor. Without limiting the generality of the foregoing, the Company will give written notice to the Holder (i) immediately upon any adjustment of the Exercise Price, setting forth in reasonable detail, and certifying, the calculation of such adjustment and (ii) at least fifteen (15) days prior to the date on which the Company closes its books or takes a record (A) with respect to any dividend or distribution upon the shares of Common Stock, (B) with respect to any grants, issuances or sales of any Options, Convertible Securities or rights to purchase stock, warrants, securities or other property to holders of shares of Common Stock or (C) for determining rights to vote with respect to any Fundamental Transaction, dissolution or liquidation; provided in each case that such information shall be made known to the public prior to or in conjunction with such notice being provided to the Holder. It is expressly understood and agreed that the time of exercise specified by the Holder in each Exercise Notice shall be definitive and may not be disputed or challenged by the Company.

9. AMENDMENT AND WAIVER. Except as otherwise provided herein, the provisions of this Warrant may be amended or waived and the Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, only if the Company has obtained the written consent of the Holder.

10. GOVERNING LAW; JURISDICTION; JURY TRIAL. This Warrant shall be governed by and construed and enforced in accordance with, and all questions concerning the construction, validity, interpretation and performance of this Warrant shall be governed by, the internal laws of the State of New York, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of New York or any other jurisdictions) that would cause the application of the laws of any jurisdictions other than the State of New York. The Company hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in The City of New York, Borough of Manhattan, for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is brought in an inconvenient forum or that the venue of such suit, action or proceeding is improper. The Company hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof to the Company at the address set forth in Section 8(i) above or such other address as the Company subsequently delivers to the Holder and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law. Nothing contained herein shall be deemed to operate to preclude the Holder from bringing suit or taking other legal action against the Company in any other jurisdiction to collect on the Company's obligations to the Holder, to realize on any collateral or any other security for such obligations, or to enforce a judgment or other court ruling in favor of the Holder. If either party shall commence an action, suit or proceeding to enforce any provisions of this Warrant, the prevailing party in such action, suit or proceeding shall be reimbursed by the other party for their reasonable attorneys' fees and other costs and expenses incurred with the investigation, preparation and prosecution of such action or proceeding. **THE COMPANY HEREBY IRREVOCABLY WAIVES ANY RIGHT IT MAY HAVE, AND AGREES NOT TO REQUEST, A JURY TRIAL FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION WITH OR ARISING OUT OF THIS WARRANT OR ANY TRANSACTION CONTEMPLATED HEREBY.**

11. DISPUTE RESOLUTION. In the case of a dispute as to the determination of the Exercise Price or the arithmetic calculation of the Warrant Shares, the Company shall submit the disputed determinations or arithmetic calculations via facsimile or electronic mail within two (2) Business Days of receipt of the Exercise Notice or other event giving rise to such dispute, as the case may be, to the Holder. If the Holder and the Company are unable to agree upon such determination or calculation of the Exercise Price or the Warrant Shares within three (3) Business Days of such disputed determination or arithmetic calculation being submitted to the Holder, then the Company shall, within two (2) Business Days submit via facsimile or electronic mail (a) the disputed determination of the Exercise Price to an independent, reputable investment bank selected by the Company and approved by the Holder or (b) the disputed arithmetic calculation of the Warrant Shares to the Company's independent, outside accountant. The Company shall cause at its expense the investment bank or the accountant, as the case may be, to perform the determinations or calculations and notify the Company and the Holder of the results no later than ten (10) Business Days from the time it receives the disputed determinations or calculations. Such investment bank's or accountant's determination or calculation, as the case may be, shall be binding upon all parties absent demonstrable error.

12. REMEDIES, OTHER OBLIGATIONS, BREACHES AND INJUNCTIVE RELIEF. The remedies provided in this Warrant shall be cumulative and in addition to all other remedies available under this Warrant and any other Transaction Documents, at law or in equity (including a decree of specific performance and/or other injunctive relief), and nothing herein shall limit the right of the Holder to pursue actual damages for any failure by the Company to comply with the terms of this Warrant. The Company acknowledges that a breach by it of its obligations hereunder will cause irreparable harm to the Holder and that the remedy at law for any such breach may be inadequate. The Company therefore agrees that, in the event of any such breach or threatened breach, the holder of this Warrant shall be entitled, in addition to all other available remedies, to an injunction restraining any breach, without the necessity of showing economic loss and without any bond or other security being required.

13. TRANSFER. This Warrant and the Warrant Shares may be offered for sale, sold, transferred, pledged or assigned without the consent of the Company.

14. SEVERABILITY; CONSTRUCTION; HEADINGS. If any provision of this Warrant is prohibited by law or otherwise determined to be invalid or unenforceable by a court of competent jurisdiction, the provision that would otherwise be prohibited, invalid or unenforceable shall be deemed amended to apply to the broadest extent that it would be valid and enforceable, and the invalidity or unenforceability of such provision shall not affect the validity of the remaining provisions of this Warrant so long as this Warrant as so modified continues to express, without material change, the original intentions of the parties as to the subject matter hereof and the prohibited nature, invalidity or unenforceability of the provision(s) in question does not substantially impair the respective expectations or reciprocal obligations of the parties or the practical realization of the benefits that would otherwise be conferred upon the parties. The parties will endeavor in good faith negotiations to replace the prohibited, invalid or unenforceable provision(s) with a valid provision(s), the effect of which comes as close as possible to that of the prohibited, invalid or unenforceable provision(s). This Warrant shall be deemed to be jointly drafted by the Company and the Holder and shall not be construed against any Person as the drafter hereof. The headings of this Warrant are for convenience of reference and shall not form part of, or affect the interpretation of, this Warrant.

15. DISCLOSURE. Upon receipt or delivery by the Company of any notice in accordance with the terms of this Warrant, unless the Company has in good faith determined that the matters relating to such notice do not constitute material, nonpublic information relating to the Company or its subsidiaries, the Company shall contemporaneously with any such receipt or delivery publicly disclose such material, nonpublic information on a Current Report on Form 8-K or otherwise. In the event that the Company believes that a notice contains material, nonpublic information relating to the Company or its subsidiaries, the Company so shall indicate to such Holder contemporaneously with delivery of such notice, and in the absence of any such indication, the Holder shall be allowed to presume that all matters relating to such notice do not constitute material, nonpublic information relating to the Company or its subsidiaries.

16. CERTAIN DEFINITIONS. For purposes of this Warrant, the following terms shall have the following meanings:

(a) "**Affiliate**" means, with respect to any Person, any other Person that directly or indirectly controls, is controlled by, or is under common control with, such Person, it being understood for purposes of this definition that "control" of a Person means the power directly or indirectly either to vote 10% or more of the stock having ordinary voting power for the election of directors of such Person or direct or cause the direction of the management and policies of such Person whether by contract or otherwise.

(b) "**Attribution Parties**" means, collectively, the following Persons and entities: (i) any investment vehicle, including, any funds, feeder funds or managed accounts, currently, or from time to time after the Subscription Date, directly or indirectly managed or advised by the Holder's investment manager or any of its Affiliates or principals, (ii) any direct or indirect Affiliates of the Holder or any of the foregoing, (iii) any Person acting or who could be deemed to be acting as a Group together with the Holder or any of the foregoing and (iv) any other Persons whose beneficial ownership of the Company's Common Stock would or could be aggregated with the Holder's and the other Attribution Parties for purposes of Section 13(d) of the 1934 Act. For clarity, the purpose of the foregoing is to subject collectively the Holder and all other Attribution Parties to the Maximum Percentage.

(c) "**Bid Price**" means, for any security as of the particular time of determination, the bid price for such security on the Principal Market as reported by Bloomberg as of such time of determination, or, if the Principal Market is not the principal securities exchange or trading market for such security, the bid price of such security on the principal securities exchange or trading market where such security is listed or traded as reported by Bloomberg as of such time of determination, or if the foregoing does not apply, the bid price of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg as of such time of determination, or, if no bid price is reported for such security by Bloomberg as of such time of determination, the average of the bid prices of any market makers for such security as reported on the Pink Open Market as of such time of determination. If the Bid Price cannot be calculated for a security as of the particular time of determination on any of the foregoing bases, the Bid Price of such security as of such time of determination shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved in accordance with the procedures in Section 11. All such determinations shall be appropriately adjusted for any stock dividend, stock split, stock combination or other similar transaction during such period.

(d) "**Black Scholes Value**" means the value of this Warrant based on the Black-Scholes Option Pricing Model obtained from the "OV" function on Bloomberg determined as of the day immediately following the first public announcement of the applicable Change of Control, or, if the Change of Control is not publicly announced, the date the Change of Control is consummated, for pricing purposes and reflecting (i) a risk-free interest rate corresponding to the U.S. Treasury rate for a period equal to the remaining term of this Warrant as of such date of request, (ii) an expected volatility equal to 100% (iii) the underlying price per share used in such calculation shall be the greater of (a) the highest Weighted Average Price during the five (5) Trading Days prior to the closing of the Change of Control and (b) the sum of the price per share being offered in cash, if any, plus the value of any non-cash consideration, if any, being offered in such Change of Control, (iv) a zero cost of borrow and (v) a 360 day annualization factor.

(e) "**Bloomberg**" means Bloomberg Financial Markets.

(f) "**Business Day**" means any day other than Saturday, Sunday or other day on which commercial banks in The City of New York are authorized or required by law to remain closed.

(g) "**Change of Control**" means any Fundamental Transaction other than (i) any reorganization, recapitalization or reclassification of the Common Stock in which holders of the Company's voting power immediately prior to such reorganization, recapitalization or reclassification continue after such reorganization, recapitalization or reclassification to hold publicly traded securities and, directly or indirectly, are, in all material respect, the holders of the voting power of the surviving entity (or entities with the authority or voting power to elect the members of the board of directors (or their equivalent if other than a corporation) of such entity or entities) after such reorganization, recapitalization or reclassification, (ii) pursuant to a migratory merger effected solely for the purpose of changing the jurisdiction of incorporation of the Company or (iii) a merger in connection with a bona fide acquisition by the Company of any Person in which (x) the gross consideration paid, directly or indirectly, by the Company in such acquisition is not greater than 20% of the Company's market capitalization as calculated on the date of the consummation of such merger and (y) such merger does not contemplate a change to the identity of a majority of the board of directors of the Company. Notwithstanding anything herein to the contrary, any transaction or series of transaction that, directly or indirectly, results in the Company or the Successor Entity not having Common Stock or common stock, as applicable, registered under the 1934 Act and listed on an Eligible Market shall be deemed a Change of Control.

(h) "**Closing Bid Price**" and "**Closing Sale Price**" means, for any security as of any date, the last closing bid price and last closing trade price, respectively, for such security on the Principal Market, as reported by Bloomberg, or, if the Principal Market begins to operate on an extended hours basis and does not designate the closing bid price or the closing trade price, as the case may be, then the last bid price or the last trade price, respectively, of such security prior to 4:00:00 p.m., New York time, as reported by Bloomberg, or, if the Principal Market is not the principal securities exchange or trading market for such security, the last closing bid price or last trade price, respectively, of such security on the principal securities exchange or trading market where such security is listed or traded as reported by Bloomberg, or if the foregoing do not apply, the last closing bid price or last trade price, respectively, of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg, or, if no closing bid price or last trade price, respectively, is reported for such security by Bloomberg, the average of the bid prices, or the ask prices, respectively, of any market makers for such security as reported in the OTC Link or on the Pink Open Market. If the Closing Bid Price or the Closing Sale Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Closing Bid Price or the Closing Sale Price, as the case may be, of such security on such date shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved pursuant to Section 11. All such determinations to be appropriately adjusted for any stock dividend, stock split, stock combination, reclassification or other similar transaction during the applicable calculation period.

(i) "**Common Stock**" means (i) the Company's Common Stock, par value \$0.01 per share, and (ii) any capital stock into which such Common Stock shall have been changed or any capital stock resulting from a reclassification of such Common Stock.

(j) "**Convertible Securities**" means any stock or securities (other than Options) directly or indirectly convertible into or exercisable or exchangeable for shares of Common Stock.

(k) "**Eligible Market**" means The NASDAQ Capital Market, the NYSE American LLC, The NASDAQ Global Select Market, The NASDAQ Global Market or The New York Stock Exchange, Inc.

(l) "**Expiration Date**" means the date one (1) year after the Initial Exercisability Date or, if such date falls on a day other than a Business Day or on which trading does not take place on the Principal Market (a "**Holiday**"), the next day that is not a Holiday.

(m) **"Fundamental Transaction"** means (A) that the Company shall, directly or indirectly, including through subsidiaries, Affiliates or otherwise, in one or more related transactions, (i) consolidate or merge with or into (whether or not the Company is the surviving corporation) another Subject Entity, or (ii) sell, assign, transfer, convey or otherwise dispose of all or substantially all of the properties or assets of the Company or any of its "significant subsidiaries" (as defined in Rule 1-02 of Regulation S-X) to one or more Subject Entities, or (iii) make, or allow one or more Subject Entities to make, or allow the Company to be subject to or have its shares of Common Stock be subject to or party to one or more Subject Entities making, a purchase, tender or exchange offer that is accepted by the holders of at least either (x) 50% of the outstanding shares of Common Stock, (y) 50% of the outstanding shares of Common Stock calculated as if any shares of Common Stock held by all Subject Entities making or party to, or Affiliated with any Subject Entities making or party to, such purchase, tender or exchange offer were not outstanding; or (z) such number of shares of Common Stock such that all Subject Entities making or party to, or Affiliated with any Subject Entity making or party to, such purchase, tender or exchange offer, become collectively the beneficial owners (as defined in Rule 13d-3 under the 1934 Act) of at least 50% of the outstanding shares of Common Stock, or (iv) consummate a stock purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with one or more Subject Entities whereby all such Subject Entities, individually or in the aggregate, acquire, either (x) at least 50% of the outstanding shares of Common Stock, (y) at least 50% of the outstanding shares of Common Stock calculated as if any shares of Common Stock held by all the Subject Entities making or party to, or Affiliated with any Subject Entity making or party to, such stock purchase agreement or other business combination were not outstanding; or (z) such number of shares of Common Stock such that the Subject Entities become collectively the beneficial owners (as defined in Rule 13d-3 under the 1934 Act) of at least 50% of the outstanding shares of Common Stock, or (v) reorganize, recapitalize or reclassify its shares of Common Stock, (B) that the Company shall, directly or indirectly, including through subsidiaries, Affiliates or otherwise, in one or more related transactions, allow any Subject Entity individually or the Subject Entities in the aggregate to be or become the "beneficial owner" (as defined in Rule 13d-3 under the 1934 Act), directly or indirectly, whether through acquisition, purchase, assignment, conveyance, tender, tender offer, exchange, reduction in outstanding shares of Common Stock, merger, consolidation, business combination, reorganization, recapitalization, spin-off, scheme of arrangement, reorganization, recapitalization or reclassification or otherwise in any manner whatsoever, of either (x) at least 50% of the aggregate ordinary voting power represented by issued and outstanding shares of Common Stock, (y) at least 50% of the aggregate ordinary voting power represented by issued and outstanding shares of Common Stock not held by all such Subject Entities as of the Subscription Date calculated as if any shares of Common Stock held by all such Subject Entities were not outstanding, or (z) a percentage of the aggregate ordinary voting power represented by issued and outstanding shares of Common Stock or other equity securities of the Company sufficient to allow such Subject Entities to effect a statutory short form merger or other transaction requiring other stockholders of the Company to surrender their Common Stock without approval of the stockholders of the Company or (C) directly or indirectly, including through subsidiaries, Affiliates or otherwise, in one or more related transactions, the issuance of or the entering into any other instrument or transaction structured in a manner to circumvent, or that circumvents, the intent of this definition in which case this definition shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this definition to the extent necessary to correct this definition or any portion of this definition which may be defective or inconsistent with the intended treatment of such instrument or transaction.

(n) "**Group**" means a "group" as that term is used in Section 13(d) of the 1934 Act and as defined in Rule 13d-5 thereunder.

(o) "**Options**" means any rights, warrants or options to subscribe for or purchase shares of Common Stock or Convertible Securities.

(p) "**Parent Entity**" of a Person means an entity that, directly or indirectly, controls the applicable Person, including such entity whose common stock or equivalent equity security is quoted or listed on an Eligible Market (or, if so elected by the Holder, any other market, exchange or quotation system), or, if there is more than one such Person or such entity, the Person or such entity designated by the Holder or in the absence of such designation, such Person or entity with the largest public market capitalization as of the date of consummation of the Fundamental Transaction or Change of Control.

(q) "**Person**" means an individual, a limited liability company, a partnership, a joint venture, a corporation, a trust, an unincorporated organization, any other entity and a government or any department or agency thereof.

(r) "**Principal Market**" means the New York Stock Exchange.

(s) **"Required Holders"** means the holders of the Warrants representing at least a majority of the shares of Common Stock underlying the Warrants then outstanding.

(t) **"Standard Settlement Period"** means the standard settlement period, expressed in a number of Trading Days, for the Company's primary trading market or quotation system with respect to the Common Stock that is in effect on the date of receipt of an applicable Exercise Notice.

(u) **"Subject Entity"** means any Person, Persons or Group or any Affiliate or associate of any such Person, Persons or Group.

(v) **"Successor Entity"** means one or more Person or Persons (or, if so elected by the Holder, the Company or Parent Entity) formed by, resulting from or surviving any Fundamental Transaction or Change of Control or one or more Person or Persons (or, if so elected by the Holder, the Company or the Parent Entity) with which such Fundamental Transaction or Change of Control shall have been entered into.

(w) **"Trading Day"** means any day on which the Common Stock is traded on the Principal Market, or, if the Principal Market is not the principal trading market for the Common Stock, then on the principal securities exchange or securities market on which the Common Stock is then traded.

(x) **"Transaction Documents"** means any agreement entered into by and between the Company and the Holder, as applicable.

(y) **"Weighted Average Price"** means, for any security as of any date, the dollar volume-weighted average price for such security on the Principal Market during the period beginning at 9:30:01 a.m., New York time (or such other time as the Principal Market publicly announces is the official open of trading), and ending at 4:00:00 p.m., New York time (or such other time as the Principal Market publicly announces is the official close of trading), as reported by Bloomberg through its "Volume at Price" function or, if the foregoing does not apply, the dollar volume-weighted average price of such security in the over-the-counter market on the electronic bulletin board for such security during the period beginning at 9:30:01 a.m., New York time (or such other time as such market publicly announces is the official open of trading), and ending at 4:00:00 p.m., New York time (or such other time as such market publicly announces is the official close of trading), as reported by Bloomberg, or, if no dollar volume-weighted average price is reported for such security by Bloomberg for such hours, the average of the highest Closing Bid Price and the lowest closing ask price of any of the market makers for such security as reported in the OTC Link or on the Pink Open Market. If the Weighted Average Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Weighted Average Price of such security on such date shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved pursuant to Section 11 with the term "Weighted Average Price" being substituted for the term "Exercise Price." All such determinations shall be appropriately adjusted for any stock dividend, stock split, stock combination, reclassification or other similar transaction during the applicable calculation period.

[Signature Page Follows]

IN WITNESS WHEREOF, the Company has caused this Warrant to Purchase Common Stock to be duly executed as of the Issuance Date set out above.

ION GEOPHYSICAL CORPORATION

By: _____
Name:
Title:

EXERCISE NOTICE

TO BE EXECUTED BY THE REGISTERED HOLDER TO EXERCISE THIS
SERIES A WARRANT TO PURCHASE COMMON STOCK

ION GEOPHYSICAL CORPORATION

The undersigned holder hereby exercises the right to purchase _____ shares of Common Stock ("**Warrant Shares**") of ION Geophysical Corporation, a company organized under the laws of Delaware (the "**Company**"), evidenced by the attached Series A Warrant to Purchase Common Stock (the "**Warrant**"). Capitalized terms used herein and not otherwise defined shall have the respective meanings set forth in the Warrant.

1. Form of Exercise Price. The Holder intends that payment of the Exercise Price shall be made as:

_____ a "Cash Exercise" with respect to _____ Warrant Shares; and/or

_____ a "Cashless Exercise" with respect to _____ Warrant Shares.

2. Payment of Exercise Price. In the event that the holder has elected a Cash Exercise with respect to some or all of the Warrant Shares to be issued pursuant hereto, the holder shall pay the Aggregate Exercise Price in the sum of \$ _____ to the Company in accordance with the terms of the Warrant.

3. Delivery of Warrant Shares. The Company shall deliver to the holder _____ Warrant Shares in accordance with the terms of the Warrant.

Date: _____, _____

Name of Registered Holder

By: _____

Name:

Title:

ACKNOWLEDGMENT

The Company hereby acknowledges this Exercise Notice and hereby directs Computershare Inc. to issue the above indicated number of shares of Common Stock on or prior to the applicable Share Delivery Date.

ION GEOPHYSICAL CORPORATION

By: _____
Name:
Title:

FORM OF SERIES B WARRANT

ION GEOPHYSICAL CORPORATION

WARRANT TO PURCHASE COMMON STOCK

Warrant No.: _____
 Number of Shares of Common Stock: _____
 Date of Issuance: _____, 2021 ("**Issuance Date**")

ION Geophysical Corporation, a company organized under the laws of Delaware (the "**Company**"), hereby certifies that, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, _____, the registered holder hereof or its permitted assigns (the "**Holder**"), is entitled, subject to the terms set forth below, to purchase from the Company, at the Exercise Price (as defined below) then in effect, at any time or times on or after [●] (the "**Initial Exercisability Date**"), but not after 11:59 p.m., New York time, on the Expiration Date, (as defined below), _____ (_____)¹ fully paid non-assessable shares of Common Stock (as defined below), subject to adjustment as provided herein (the "**Warrant Shares**"). Except as otherwise defined herein, capitalized terms in this Warrant to Purchase Common Stock (including any Warrants to Purchase Common Stock issued in exchange, transfer or replacement hereof, this "**Warrant**"), shall have the meanings set forth in Section 16. This Warrant is one of the Warrants to Purchase Common Stock (the "**Warrants**") issued pursuant to (i) that certain Underwriting Agreement, dated as of [●], 2021 (the "**Subscription Date**") by and between the Company and Oppenheimer & Co. Inc., (ii) the Company's Registration Statement on Form S-1 (File number 333-[●]) (the "**Registration Statement**") and (iii) the Company's prospectus supplement dated as of [●], 2021.

¹ Insert [●]% of the number of shares of Common Stock purchased pursuant to the Underwriting Agreement.

1. EXERCISE OF WARRANT.

(a) Mechanics of Exercise. Subject to the terms and conditions hereof (including, without limitation, the limitations set forth in Section 1(f)), this Warrant may be exercised by the Holder at any time or times on or after the Initial Exercisability Date, in whole or in part, by delivery (whether via facsimile, electronic mail or otherwise) of a written notice, in the form attached hereto as Exhibit A (the "**Exercise Notice**"), of the Holder's election to exercise this Warrant. Within one (1) Trading Day following the delivery of the Exercise Notice, the Holder shall make payment to the Company of an amount equal to the Exercise Price in effect on the date of such exercise multiplied by the number of Warrant Shares as to which this Warrant is being exercised (the "**Aggregate Exercise Price**") in cash by wire transfer of immediately available funds or, if the provisions of Section 1(d) are applicable, by notifying the Company that this Warrant is being exercised pursuant to a Cashless Exercise (as defined in Section 1(d)). The Holder shall not be required to deliver the original Warrant in order to effect an exercise hereunder, nor shall any ink-original signature or medallion guarantee (or other type of guarantee or notarization) with respect to any Exercise Notice be required. Execution and delivery of the Exercise Notice with respect to less than all of the Warrant Shares shall have the same effect as cancellation of the original Warrant and issuance of a new Warrant evidencing the right to purchase the remaining number of Warrant Shares and the Holder shall not be required to physically surrender this Warrant to the Company until the Holder has purchased all of the Warrant Shares available hereunder and the Warrant has been exercised in full, in which case, the Holder shall surrender this Warrant to the Company for cancellation within five (5) Trading Days of the date on which the final Exercise Notice has been delivered to the Company. On or before the first (1st) Trading Day following the date on which the Holder has delivered the applicable Exercise Notice, the Company shall transmit by facsimile or electronic mail an acknowledgment of confirmation of receipt of the Exercise Notice, in the form attached to the Exercise Notice, to the Holder and the Company's transfer agent (the "**Transfer Agent**"). So long as the Holder delivers the Aggregate Exercise Price (or notice of a Cashless Exercise, if applicable) on or prior to the first (1st) Trading Day following the date on which the Exercise Notice has been delivered to the Company, then on or prior to the earlier of (i) the second (2nd) Trading Day and (ii) the number of Trading Days comprising the Standard Settlement Period, in each case following the date on which the Exercise Notice has been delivered to the Company, or, if the Holder does not deliver the Aggregate Exercise Price (or notice of a Cashless Exercise, if applicable) on or prior to the first (1st) Trading Day following the date on which the Exercise Notice has been delivered to the Company, then on or prior to the first (1st) Trading Day following the date on which the Aggregate Exercise Price (or notice of a Cashless Exercise, if applicable) is delivered (such earlier date, or if later, the earliest day on which the Company is required to deliver Warrant Shares pursuant to this Section 1(a), the "**Share Delivery Date**"), the Company shall (X) provided that the Transfer Agent is participating in The Depository Trust Company ("**DTC**") Fast Automated Securities Transfer Program, credit such aggregate number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the Holder's or its designee's balance account with DTC through its Deposit / Withdrawal At Custodian system, or (Y) if the Transfer Agent is not participating in the DTC Fast Automated Securities Transfer Program, issue and dispatch by overnight courier to the address as specified in the Exercise Notice, a certificate, registered in the name of the Holder or its designee, for the number of Warrant Shares to which the Holder is entitled pursuant to such exercise. The Company shall be responsible for all fees and expenses of the Transfer Agent and all fees and expenses with respect to the issuance of Warrant Shares via DTC, if any, including without limitation for same day processing. Upon delivery of the Exercise Notice, the Holder shall be deemed for all corporate purposes to have become the holder of record and beneficial owner of the Warrant Shares with respect to which this Warrant has been exercised, irrespective of the date such Warrant Shares are credited to the Holder's DTC account or the date of delivery of the certificates evidencing such Warrant Shares, as the case may be. If this Warrant is physically delivered to the Company in connection with any exercise pursuant to this Section 1(a) and the number of Warrant Shares represented by this Warrant submitted for exercise is greater than the number of Warrant Shares being acquired upon an exercise, then the Company shall as soon as practicable and in no event later than three (3) Trading Days after any exercise and at its own expense, issue and deliver to the Holder (or its designee) a new Warrant (in accordance with Section 7(d)) representing the right to purchase the number of Warrant Shares issuable immediately prior to such exercise under this Warrant, less the number of Warrant Shares with respect to which this Warrant is exercised. No fractional Warrant Shares are to be issued upon the exercise of this Warrant, but rather the number of Warrant Shares to be issued shall be rounded to the nearest whole number. The Company shall pay any and all transfer, stamp, issuance and similar taxes, costs and expenses (including, without limitation, fees and expenses of the Transfer Agent) which may be payable with respect to the issuance and delivery of Warrant Shares upon exercise of this Warrant. The Company's obligations to issue and deliver Warrant Shares in accordance with the terms and subject to the conditions hereof are absolute and unconditional, irrespective of any action or inaction by the Holder to enforce the same, any waiver or consent with respect to any provision hereof, the recovery of any judgment against any Person or any action to enforce the same, or any setoff, counterclaim, recoupment, limitation or termination; provided, however, that the Company shall not be required to deliver Warrant Shares with respect to an exercise prior to the Holder's delivery of the Aggregate Exercise Price (or notice of a Cashless Exercise) with respect to such exercise.

(b) Exercise Price. For purposes of this Warrant, "**Exercise Price**" means \$[●] per share, subject to adjustment as provided herein.

(c) Company's Failure to Timely Deliver Securities. If either (I) the Company shall fail for any reason or for no reason to issue to the Holder on or prior to the applicable Share Delivery Date, if (x) the Transfer Agent is not participating in the DTC Fast Automated Securities Transfer Program, a certificate for the number of shares of Common Stock to which the Holder is entitled and register such Common Stock on the Company's share register or (y) the Transfer Agent is participating in the DTC Fast Automated Securities Transfer Program, to credit the Holder's balance account with DTC, for such number of shares of Common Stock to which the Holder is entitled upon the Holder's exercise of this Warrant or (II) a registration statement (which may be the Registration Statement) covering the issuance or resale of the Warrant Shares that are the subject of the Exercise Notice (the "**Exercise Notice Warrant Shares**") is not available for the issuance or resale, as applicable, of such Exercise Notice Warrant Shares and (x) the Company fails to promptly, but in no event later than one (1) Business Day after such registration statement becomes unavailable, to so notify the Holder and (y) the Company is unable to deliver the Exercise Notice Warrant Shares electronically without any restrictive legend by crediting such aggregate number of Exercise Notice Warrant Shares to the Holder's or its designee's balance account with DTC through its Deposit / Withdrawal At Custodian system (the event described in the immediately foregoing clause (II) is hereinafter referred to as a "**Notice Failure**" and together with the event described in clause (I) above, an "**Exercise Failure**"), then, in addition to all other remedies available to the Holder, if on or prior to the applicable Share Delivery Date either (I) if the Transfer Agent is not participating in the DTC Fast Automated Securities Transfer Program, the Company shall fail to issue and deliver a certificate to the Holder and register such shares of Common Stock on the Company's share register or, if the Transfer Agent is participating in the DTC Fast Automated Securities Transfer Program, credit the Holder's balance account with DTC for the number of shares of Common Stock to which the Holder is entitled upon the Holder's exercise hereunder or pursuant to the Company's obligation pursuant to clause (ii) below or (II) if a Notice Failure occurs, and if after such date the Holder is required by its broker to purchase (in an open market transaction or otherwise) or the Holder's brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Warrant Shares which the Holder anticipated receiving upon such exercise (a "**Buy-In**"), then the Company shall, within five (5) Trading Days after the Holder's request, (A) pay in cash to the Holder the amount, if any, by which (x) the Holder's total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased exceeds (y) the amount obtained by multiplying (1) the number of Warrant Shares that the Company was required to deliver to the Holder in connection with the exercise at issue times (2) the price at which the sell order giving rise to such purchase obligation was executed, and (B) at the option of the Holder, either reinstate the portion of the Warrant and equivalent number of Warrant Shares for which such exercise was not honored (in which case such exercise shall be deemed rescinded) or deliver to the Holder the number of shares of Common Stock that would have been issued had the Company timely complied with its exercise and delivery obligations hereunder. For example, if the Holder purchases Common Stock having a total purchase price of \$11,000 to cover a Buy-In with respect to an attempted exercise of shares of Common Stock with an aggregate sale price giving rise to such purchase obligation of \$10,000, under clause (A) of the immediately preceding sentence the Company shall be required to pay the Holder \$1,000. The Holder shall provide the Company written notice indicating the amounts payable to the Holder in respect of the Buy-In and, upon request of the Company, evidence of the amount of such loss. Nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company's failure to timely deliver shares of Common Stock upon exercise of the Warrant as required pursuant to the terms hereof. The Company's current transfer agent participates in the DTC Fast Automated Securities Transfer Program ("FAST"). In the event that the Company changes transfer agents while this Warrant is outstanding, the Company shall select a transfer agent that participates in FAST. While this Warrant is outstanding, the Company shall cause its transfer agent to participate in FAST with respect to this Warrant. In addition to the foregoing rights, (i) if the Company fails to deliver the applicable number of Warrant Shares upon an exercise pursuant to Section 1 by the applicable Share Delivery Date, then the Holder shall have the right to rescind such exercise in whole or in part and retain and/or have the Company return, as the case may be, any portion of this Warrant that has not been exercised pursuant to such Exercise Notice; provided that the rescission of an exercise shall not affect the Company's obligation to make any payments that have accrued prior to the date of such notice pursuant to this Section 1(c) or otherwise, and (ii) if a registration statement (which may be the Registration Statement) covering the issuance or resale of the Warrant Shares that are subject to an Exercise Notice is not available for the issuance or resale, as applicable, of such Exercise Notice Warrant Shares and the Holder has submitted an Exercise Notice prior to receiving notice of the non-availability of such registration statement and the Company has not already delivered the Warrant Shares underlying such Exercise Notice electronically without any restrictive legend by crediting such aggregate number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the Holder's or its designee's balance account with DTC through its Deposit / Withdrawal At Custodian system, the Holder shall have the option, by delivery of notice to the Company, to (x) rescind such Exercise Notice in whole or in part and retain or have returned, as the case may be, any portion of this Warrant that has not been exercised pursuant to such Exercise Notice; provided that the rescission of an Exercise Notice shall not affect the Company's obligation to make any payments that have accrued prior to the date of such notice pursuant to this Section 1(c) or otherwise, and/or (y) switch some or all of such Exercise Notice from a cash exercise to a Cashless Exercise. In addition to the foregoing, if the Company fails for any reason to deliver to the Holder the Warrant Shares subject to an Exercise Notice by the second Trading Day following the Share Delivery Date, the Company shall pay to the Holder, in cash, as liquidated damages and not as a penalty, for each \$1,000 of Warrant Shares subject to such exercise (based on the Weighted Average Price of the Common Stock on the date of the applicable Exercise Notice), \$10 per Trading Day (increasing to \$20 per Trading Day on the fifth Trading Day after such liquidated damages begin to accrue) for each Trading Day after the second Trading Day following such Share Delivery Date until such Warrant Shares are delivered or Holder rescinds such exercise.

(d) Cashless Exercise. Notwithstanding anything contained herein to the contrary, if a registration statement (which may be the Registration Statement) covering the issuance or resale of the Exercise Notice Warrant Shares is not available for the issuance or resale, as applicable, of such Exercise Notice Warrant Shares, the Holder may, in its sole discretion, exercise this Warrant in whole or in part and, in lieu of making the cash payment otherwise contemplated to be made to the Company upon such exercise in payment of the Aggregate Exercise Price, elect instead to receive upon such exercise the "Net Number" of shares of Common Stock determined according to the following formula (a "**Cashless Exercise**"):

$$\text{Net Number} = \frac{(A \times B) - (A \times C)}{B}$$

For purposes of the foregoing formula:

A= the total number of shares with respect to which this Warrant is then being exercised.

B= as applicable: (i) the Closing Sale Price of the Common Stock on the Trading Day immediately preceding the date of the applicable Exercise Notice if such Exercise Notice is (1) both executed and delivered pursuant to Section 1(a) hereof on a day that is not a Trading Day or (2) both executed and delivered pursuant to Section 1(a) hereof on a Trading Day prior to the opening of "regular trading hours" (as defined in Rule 600(b)(68) of Regulation NMS promulgated under the federal securities laws) on such Trading Day, (ii) at the option of the Holder, either (y) the Weighted Average Price on the Trading Day immediately preceding the date of the applicable Exercise Notice or (z) the Bid Price of the Common Stock as of the time of the Holder's execution of the applicable Exercise Notice if such Exercise Notice is executed during "regular trading hours" on a Trading Day and is delivered within two (2) hours thereafter (including until two (2) hours after the close of "regular trading hours" on a Trading Day) pursuant to Section 1(a) hereof or (iii) the Closing Sale Price of the Common Stock on the date of the applicable Exercise Notice if the date of such Exercise Notice is a Trading Day and such Exercise Notice is both executed and delivered pursuant to Section 1(a) hereof after the close of "regular trading hours" on such Trading Day.

C= the Exercise Price then in effect for the applicable Warrant Shares at the time of such exercise.

If Warrant Shares are issued in such a cashless exercise, the Company acknowledges and agrees that in accordance with Section 3(a)(9) of the Securities Act of 1933, as amended, the Warrant Shares shall take on the registered characteristics of the Warrants being exercised, and the holding period of the Warrants being exercised may be tacked on to the holding period of the Warrant Shares. The Company agrees not to take any position contrary to this Section 1(d). Without limiting the rights of a Holder to receive Warrant Shares on a "cashless exercise," and to receive the cash payments contemplated pursuant to Sections 1(c) and 4(b), in no event will the Company be required to net cash settle a Warrant exercise.

(e) Disputes. In the case of a dispute as to the determination of the Exercise Price or the arithmetic calculation of the Warrant Shares, the Company shall promptly issue to the Holder the number of Warrant Shares that are not disputed and resolve such dispute in accordance with Section 11.

(f) Beneficial Ownership. Notwithstanding anything to the contrary contained herein, the Company shall not effect the exercise of any portion of this Warrant, and the Holder shall not have the right to exercise any portion of this Warrant, pursuant to the terms and conditions of this Warrant and any such exercise shall be null and void and treated as if never made, to the extent that after giving effect to such exercise, the Holder together with the other Attribution Parties collectively would beneficially own in excess of $[4.99][9.99]^2\%$ (the "**Maximum Percentage**") of the number of shares of Common Stock outstanding immediately after giving effect to such exercise. For purposes of the foregoing sentence, the aggregate number of shares of Common Stock beneficially owned by the Holder and the other Attribution Parties shall include the number of shares of Common Stock held by the Holder and all other Attribution Parties plus the number of shares of Common Stock issuable upon exercise of this Warrant with respect to which the determination of such sentence is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (A) exercise of the remaining, unexercised portion of this Warrant beneficially owned by the Holder or any of the other Attribution Parties and (B) exercise or conversion of the unexercised or unconverted portion of any other securities of the Company (including, without limitation, any convertible notes or convertible preferred stock or warrants, including the other Warrants) beneficially owned by the Holder or any other Attribution Party subject to a limitation on conversion or exercise analogous to the limitation contained in this Section 1(f). For purposes of this Section 1(f), beneficial ownership shall be calculated in accordance with Section 13(d) of the Securities Exchange Act of 1934, as amended (the "**1934 Act**"). For purposes of this Warrant, in determining the number of outstanding shares of Common Stock the Holder may acquire upon the exercise of this Warrant without exceeding the Maximum Percentage, the Holder may rely on the number of outstanding shares of Common Stock as reflected in (x) the Company's most recent Annual Report on Form 10-K, Quarterly Report on Form 10-Q and Current Reports on Form 8-K or other public filing with the Securities and Exchange Commission (the "**SEC**"), as the case may be, (y) a more recent public announcement by the Company or (z) any other written notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding (the "**Reported Outstanding Share Number**"). If the Company receives an Exercise Notice from the Holder at a time when the actual number of outstanding shares of Common Stock is less than the Reported Outstanding Share Number, the Company shall (i) notify the Holder in writing of the number of shares of Common Stock then outstanding and, to the extent that such Exercise Notice would otherwise cause the Holder's beneficial ownership, as determined pursuant to this Section 1(f), to exceed the Maximum Percentage, the Holder must notify the Company of a reduced number of Warrant Shares to be purchased pursuant to such Exercise Notice (the number of shares by which such purchase is reduced, the "**Reduction Shares**") and (ii) as soon as reasonably practicable, the Company shall return to the Holder any exercise price paid by the Holder for the Reduction Shares. For any reason at any time, upon the written or oral request of the Holder, the Company shall within one (1) Business Day confirm orally and in writing or by electronic mail to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder and any other Attribution Party since the date as of which the Reported Outstanding Share Number was reported. In the event that the issuance of Common Stock to the Holder upon exercise of this Warrant results in the Holder and the other Attribution Parties being deemed to beneficially own, in the aggregate, more than the Maximum Percentage of the number of outstanding shares of Common Stock (as determined under Section 13(d) of the 1934 Act), the number of shares so issued by which the Holder's and the other Attribution Parties' aggregate beneficial ownership exceeds the Maximum Percentage (the "**Excess Shares**") shall be deemed null and void and shall be cancelled ab initio, and the Holder shall not have the power to vote or to transfer the Excess Shares. As soon as reasonably practicable after the issuance of the Excess Shares has been deemed null and void, the Company shall return to the Holder the exercise price paid by the Holder for the Excess Shares. Upon delivery of a written notice to the Company, the Holder may from time to time increase or decrease the Maximum Percentage to any other percentage not in excess of 9.99% as specified in such notice; provided that (i) any such increase in the Maximum Percentage will not be effective until the sixty-first (61st) day after such notice is delivered to the Company and (ii) any such increase or decrease will apply only to the Holder and the other Attribution Parties and not to any other holder of Warrants that is not an Attribution Party of the Holder. For purposes of clarity, the shares of Common Stock issuable pursuant to the terms of this Warrant in excess of the Maximum Percentage shall not be deemed to be beneficially owned by the Holder for any purpose including for purposes of Section 13(d) or Rule 16a-1(a)(1) of the 1934 Act. No prior inability to exercise this Warrant pursuant to this paragraph shall have any effect on the applicability of the provisions of this paragraph with respect to any subsequent determination of exercisability. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 1(f) to the extent necessary to correct this paragraph or any portion of this paragraph which may be defective or inconsistent with the intended beneficial ownership limitation contained in this Section 1(f) or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitation contained in this paragraph may not be waived and shall apply to a successor holder of this Warrant.

² NTD: To confirm.

(g) Required Reserve Amount. So long as this Warrant remains outstanding, the Company shall at all times keep reserved for issuance under this Warrant a number of shares of Common Stock at least equal to 100% of the maximum number of shares of Common Stock as shall be necessary to satisfy the Company's obligation to issue shares of Common Stock under the Warrants then outstanding (without regard to any limitations on exercise) (the "**Required Reserve Amount**"); provided that at no time shall the number of shares of Common Stock reserved pursuant to this Section 1(g) be reduced other than in connection with any exercise of Warrants or such other event covered by Section 2(c) below. The Required Reserve Amount (including, without limitation, each increase in the number of shares so reserved) shall be allocated pro rata among the holders of the Warrants based on the number of shares of Common Stock issuable upon exercise of Warrants held by each holder thereof on the Issuance Date (without regard to any limitations on exercise) (the "**Authorized Share Allocation**"). In the event that a holder shall sell or otherwise transfer any of such holder's Warrants, each transferee shall be allocated a pro rata portion of such holder's Authorized Share Allocation. Any shares of Common Stock reserved and allocated to any Person which ceases to hold any Warrants shall be allocated to the remaining holders of Warrants, pro rata based on the number of shares of Common Stock issuable upon exercise of the Warrants then held by such holders thereof (without regard to any limitations on exercise).

(h) Insufficient Authorized Shares. If at any time while this Warrant remains outstanding the Company does not have a sufficient number of authorized and unreserved shares of Common Stock to satisfy its obligation to reserve for issuance the Required Reserve Amount (an "**Authorized Share Failure**"), then the Company shall promptly take all action reasonably necessary to increase the Company's authorized shares of Common Stock to an amount sufficient to allow the Company to reserve the Required Reserve Amount for this Warrant then outstanding. Without limiting the generality of the foregoing sentence, as soon as practicable after the date of the occurrence of an Authorized Share Failure, but in no event later than ninety (90) days after the occurrence of such Authorized Share Failure, the Company shall hold a meeting of its stockholders for the approval of an increase in the number of authorized shares of Common Stock. In connection with such meeting, the Company shall provide each stockholder with a proxy statement and shall use its reasonable best efforts to solicit its stockholders' approval of such increase in authorized shares of Common Stock and to cause its board of directors to recommend to the stockholders that they approve such proposal. Notwithstanding the foregoing, if any such time of an Authorized Share Failure, the Company is able to obtain the written consent of a majority of the shares of its issued and outstanding shares of Common Stock to approve the increase in the number of authorized shares of Common Stock, the Company may satisfy this obligation by obtaining such consent and submitting for filing with the SEC an Information Statement on Schedule 14C.

2. ADJUSTMENT OF EXERCISE PRICE AND NUMBER OF WARRANT SHARES. The Exercise Price and the number of Warrant Shares shall be adjusted from time to time as follows:

(a) Intentionally omitted.

(b) Voluntary Adjustment By Company. The Company may at any time during the term of this Warrant reduce the then current Exercise Price to any amount and for any period of time deemed appropriate by the Board of Directors of the Company.

(c) Adjustment Upon Subdivision or Combination of Common Stock. If the Company at any time on or after the Subscription Date subdivides (by any stock split, stock dividend, recapitalization or otherwise) one or more classes of its outstanding shares of Common Stock into a greater number of shares, the Exercise Price in effect immediately prior to such subdivision will be proportionately reduced and the number of Warrant Shares will be proportionately increased. If the Company at any time on or after the Subscription Date combines (by combination, reverse stock split or otherwise) one or more classes of its outstanding shares of Common Stock into a smaller number of shares, the Exercise Price in effect immediately prior to such combination will be proportionately increased and the number of Warrant Shares will be proportionately decreased. Any adjustment under this Section 2(c) shall become effective at the close of business on the date the subdivision or combination becomes effective.

(d) Other Events. If any event occurs of the type contemplated by the provisions of this Section 2 but not expressly provided for by such provisions (including, without limitation, the granting of stock appreciation rights, phantom stock rights or other rights with equity features), then the Company's Board of Directors will make an appropriate adjustment in the Exercise Price and the number of Warrant Shares, as mutually determined by the Company's Board of Directors and the Required Holders, so as to protect the rights of the Holder; provided that no such adjustment pursuant to this Section 2(d) will increase the Exercise Price or decrease the number of Warrant Shares as otherwise determined pursuant to this Section 2.

3. RIGHTS UPON DISTRIBUTION OF ASSETS. In addition to any adjustments pursuant to Section 2 above, if, on or after the Subscription Date and on or prior to the Expiration Date, the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property, options, evidence of indebtedness or any other assets by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction) (a "**Distribution**"), at any time after the issuance of this Warrant, then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations or restrictions on exercise of this Warrant, including without limitation, the Maximum Percentage) immediately before the date on which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution (provided, however, that to the extent that the Holder's right to participate in any such Distribution would result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, then the Holder shall not be entitled to participate in such Distribution to such extent (and shall not be entitled to beneficial ownership of such shares of Common Stock as a result of such Distribution (and beneficial ownership) to such extent) and the portion of such Distribution shall be held in abeyance for the benefit of the Holder until such time or times as its right thereto would not result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, at which time or times the Holder shall be granted such Distribution (and any Distributions declared or made on such initial Distribution or on any subsequent Distribution held similarly in abeyance) to the same extent as if there had been no such limitation).

4. PURCHASE RIGHTS; FUNDAMENTAL TRANSACTIONS.

(a) Purchase Rights. In addition to any adjustments pursuant to Section 2 above, if at any time on or after the Subscription Date and on or prior to the Expiration Date the Company grants, issues or sells any Options, Convertible Securities or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of Common Stock (the "**Purchase Rights**"), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations or restrictions on exercise of this Warrant, including without limitation, the Maximum Percentage) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of Common Stock are to be determined for the grant, issuance or sale of such Purchase Rights (provided, however, that to the extent that the Holder's right to participate in any such Purchase Right would result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, then the Holder shall not be entitled to participate in such Purchase Right to such extent (and shall not be entitled to beneficial ownership of such Common Stock as a result of such Purchase Right (and beneficial ownership) to such extent) and such Purchase Right to such extent shall be held in abeyance for the benefit of the Holder until such time or times as its right thereto would not result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, at which time or times the Holder shall be granted such right (and any Purchase Right granted, issued or sold on such initial Purchase Right or on any subsequent Purchase Right to be held similarly in abeyance) to the same extent as if there had been no such limitation).

(b) Fundamental Transaction. The Company shall not enter into or be party to a Fundamental Transaction unless the Successor Entity assumes in writing all of the obligations of the Company under this Warrant in accordance with the provisions of this Section 4(b), including agreements to deliver to the Holder in exchange for this Warrant a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Warrant, including, without limitation, which is exercisable for a corresponding number of shares of capital stock equivalent to the shares of Common Stock acquirable and receivable upon exercise of this Warrant (without regard to any limitations on the exercise of this Warrant) prior to such Fundamental Transaction, and with an exercise price which applies the exercise price hereunder to such shares of capital stock (but taking into account the relative value of the shares of Common Stock pursuant to such Fundamental Transaction and the value of such shares of capital stock, such adjustments to the number of shares of capital stock and such exercise price being for the purpose of protecting the economic value of this Warrant immediately prior to the consummation of such Fundamental Transaction). Upon the consummation of each Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for the Company (so that from and after the date of the applicable Fundamental Transaction, the provisions of this Warrant and the other Transaction Documents referring to the "Company" shall refer instead to the Successor Entity), and may exercise every right and power of the Company and shall assume all of the obligations of the Company under this Warrant with the same effect as if such Successor Entity had been named as the Company herein. Upon consummation of each Fundamental Transaction, the Successor Entity shall deliver to the Holder confirmation that there shall be issued upon exercise of this Warrant at any time after the consummation of the applicable Fundamental Transaction, in lieu of the shares of Common Stock (or other securities, cash, assets or other property (except such items still issuable under Sections 3 and 4(a) above, which shall continue to be receivable thereafter)) issuable upon the exercise of this Warrant prior to the applicable Fundamental Transaction, such shares of common stock (or its equivalent) of the Successor Entity (including its Parent Entity) which the Holder would have been entitled to receive upon the happening of the applicable Fundamental Transaction had this Warrant been exercised immediately prior to the applicable Fundamental Transaction (without regard to any limitations on the exercise of this Warrant), as adjusted in accordance with the provisions of this Warrant. Notwithstanding the foregoing, and without limiting Section 1(f) hereof, the Holder may elect, at its sole option, by delivery of written notice to the Company to waive this Section 4(b) to permit the Fundamental Transaction without the assumption of this Warrant. In addition to and not in substitution for any other rights hereunder, prior to the consummation of each Fundamental Transaction pursuant to which holders of shares of Common Stock are entitled to receive securities or other assets with respect to or in exchange for shares of Common Stock (a "Corporate Event"), the Company shall make appropriate provision to insure that the Holder will thereafter have the right to receive upon an exercise of this Warrant at any time after the consummation of the applicable Fundamental Transaction but prior to the Expiration Date, in lieu of the shares of the Common Stock (or other securities, cash, assets or other property (except such items still issuable under Sections 3 and 4(a) above, which shall continue to be receivable thereafter)) issuable upon the exercise of the Warrant prior to such Fundamental Transaction, such shares of stock, securities, cash, assets or any other property whatsoever (including warrants or other purchase or subscription rights) (collectively, the "Corporate Event Consideration") which the Holder would have been entitled to receive upon the happening of the applicable Fundamental Transaction had this Warrant been exercised immediately prior to the applicable Fundamental Transaction (without regard to any limitations on the exercise of this Warrant). The provision made pursuant to the preceding sentence shall be in a form and substance reasonably satisfactory to the Holder. The provisions of this Section 4(b) shall apply similarly and equally to successive Fundamental Transactions and Corporate Events. Notwithstanding the foregoing, in the event of a Change of Control, at the request of the Holder delivered before the 30th day after such Change of Control, the Company (or the Successor Entity) shall purchase this Warrant from the Holder by paying to the Holder, within five (5) Business Days after such request (or, if later, on the effective date of the Change of Control), an amount equal to the Black Scholes Value of the remaining unexercised portion of this Warrant on the effective date of such Change of Control, payable in cash; provided, however, that, if the Change of Control is not within the Company's control, including not approved by the Company's Board of Directors, Holder shall only be entitled to receive from the Company or any Successor Entity, as of the date of consummation of such Change of Control, the same type or form of consideration (and in the same proportion), at the Black Scholes Value of the unexercised portion of this Warrant, that is being offered and paid to the holders of Common Stock of the Company in connection with the Change of Control, whether that consideration be in the form of cash, stock or any combination thereof, or whether the holders of Common Stock are given the choice to receive from among alternative forms of consideration in connection with the Change of Control; provided, further, that if holder of Common Stock are not offered or paid any consideration in such Change of Control, such holders of Common Stock will be deemed to have received common stock of the Successor Entity (which entity may be the Company following such Change of Control) in such Change of Control.

5. NONCIRCUMVENTION. The Company hereby covenants and agrees that the Company will not, by amendment of its Amended and Restated Certificate of Incorporation or Amended and Restated Bylaws, or through any reorganization, transfer of assets, consolidation, merger, scheme of arrangement, dissolution, issuance or sale of securities, or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, and will at all times in good faith carry out all of the provisions of this Warrant and take all action as may be required to protect the rights of the Holder. Without limiting the generality of the foregoing, the Company (i) shall not increase the par value of any shares of Common Stock receivable upon the exercise of this Warrant above the Exercise Price then in effect, (ii) shall take all such actions as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable shares of Common Stock upon the exercise of this Warrant, and (iii) shall, so long as any of the Warrants are outstanding, take all action necessary to reserve and keep available out of its authorized and unissued shares of Common Stock, solely for the purpose of effecting the exercise of the Warrants, the number of shares of Common Stock as shall from time to time be necessary to effect the exercise of the Warrants then outstanding (without regard to any limitations on exercise).

6. WARRANT HOLDER NOT DEEMED A STOCKHOLDER. Except as otherwise specifically provided herein, the Holder, solely in such Person's capacity as a holder of this Warrant, shall not be entitled to vote or receive dividends or be deemed the holder of capital stock of the Company for any purpose, nor shall anything contained in this Warrant be construed to confer upon the Holder, solely in such Person's capacity as the Holder of this Warrant, any of the rights of a stockholder of the Company or any right to vote, give or withhold consent to any corporate action (whether any reorganization, issue of stock, reclassification of stock, consolidation, merger, conveyance or otherwise), receive notice of meetings, receive dividends or subscription rights, or otherwise, prior to the issuance to the Holder of the Warrant Shares which such Person is then entitled to receive upon the due exercise of this Warrant. In addition, nothing contained in this Warrant shall be construed as imposing any liabilities on the Holder to purchase any securities (upon exercise of this Warrant or otherwise) or as a stockholder of the Company, whether such liabilities are asserted by the Company or by creditors of the Company. Notwithstanding this Section 6, the Company shall provide the Holder with copies of the same notices and other information given to the stockholders of the Company generally, contemporaneously with the giving thereof to the stockholders.

7. REISSUANCE OF WARRANTS.

(a) Transfer of Warrant. If this Warrant is to be transferred, the Holder shall surrender this Warrant to the Company, whereupon the Company will forthwith issue and deliver upon the order of the Holder a new Warrant (in accordance with Section 7(d)), registered as the Holder may request, representing the right to purchase the number of Warrant Shares being transferred by the Holder and, if less than the total number of Warrant Shares then underlying this Warrant is being transferred, a new Warrant (in accordance with Section 7(d)) to the Holder representing the right to purchase the number of Warrant Shares not being transferred.

(b) Lost, Stolen or Mutilated Warrant. Upon receipt by the Company of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of this Warrant, and, in the case of loss, theft or destruction, of any indemnification undertaking by the Holder to the Company in customary form (but without the obligation to post a bond) and, in the case of mutilation, upon surrender and cancellation of this Warrant, the Company shall execute and deliver to the Holder a new Warrant (in accordance with Section 7(d)) representing the right to purchase the Warrant Shares then underlying this Warrant.

(c) Exchangeable for Multiple Warrants. This Warrant is exchangeable, upon the surrender hereof by the Holder at the principal office of the Company, for a new Warrant or Warrants (in accordance with Section 7(d)) representing in the aggregate the right to purchase the number of Warrant Shares then underlying this Warrant, and each such new Warrant will represent the right to purchase such portion of such Warrant Shares as is designated by the Holder at the time of such surrender.

(d) Issuance of New Warrants. Whenever the Company is required to issue a new Warrant pursuant to the terms of this Warrant, such new Warrant (i) shall be of like tenor with this Warrant, (ii) shall represent, as indicated on the face of such new Warrant, the right to purchase the Warrant Shares then underlying this Warrant (or in the case of a new Warrant being issued pursuant to Section 7(a) or Section 7(c), the Warrant Shares designated by the Holder which, when added to the number of shares of Common Stock underlying the other new Warrants issued in connection with such issuance, does not exceed the number of Warrant Shares then underlying this Warrant), (iii) shall have an issuance date, as indicated on the face of such new Warrant which is the same as the Issuance Date, and (iv) shall have the same rights and conditions as this Warrant.

8. NOTICES. Whenever notice is required to be given under this Warrant, including, without limitation, an Exercise Notice, unless otherwise provided herein, such notice shall be given in writing, (i) if delivered (a) from within the domestic United States, by first-class registered or certified airmail, or nationally recognized overnight express courier, postage prepaid, electronic mail or by facsimile or (b) from outside the United States, by International Federal Express, electronic mail or facsimile, and (ii) will be deemed given (A) if delivered by first-class registered or certified mail domestic, three (3) Business Days after so mailed, (B) if delivered by nationally recognized overnight carrier, one (1) Business Day after so mailed, (C) if delivered by International Federal Express, two (2) Business Days after so mailed and (D) at the time of transmission, if delivered by electronic mail to each of the email addresses specified in this Section 8 prior to 5:00 p.m. (New York time) on a Trading Day, (E) the next Trading Day after the date of transmission, if delivered by electronic mail to each of the email addresses specified in this Section 8 on a day that is not a Trading Day or later than 5:00 p.m. (New York time) on any Trading Day and (F) if delivered by facsimile, upon electronic confirmation of delivery of such facsimile, and will be delivered and addressed as follows:

(i) if to the Company, to:
ION Geophysical Corporation
2105 CityWest Blvd., Suite 100
Houston, TX 77042
Attention: [●]
Facsimile: [●]
Email: [●]

(ii) if to the Holder, at such address or other contact information delivered by the Holder to Company or as is on the books and records of the Company.

The Company shall provide the Holder with prompt written notice of all actions taken pursuant to this Warrant, including in reasonable detail a description of such action and the reason therefor. Without limiting the generality of the foregoing, the Company will give written notice to the Holder (i) immediately upon any adjustment of the Exercise Price, setting forth in reasonable detail, and certifying, the calculation of such adjustment and (ii) at least fifteen (15) days prior to the date on which the Company closes its books or takes a record (A) with respect to any dividend or distribution upon the shares of Common Stock, (B) with respect to any grants, issuances or sales of any Options, Convertible Securities or rights to purchase stock, warrants, securities or other property to holders of shares of Common Stock or (C) for determining rights to vote with respect to any Fundamental Transaction, dissolution or liquidation; provided in each case that such information shall be made known to the public prior to or in conjunction with such notice being provided to the Holder. It is expressly understood and agreed that the time of exercise specified by the Holder in each Exercise Notice shall be definitive and may not be disputed or challenged by the Company.

9. AMENDMENT AND WAIVER. Except as otherwise provided herein, the provisions of this Warrant may be amended or waived and the Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, only if the Company has obtained the written consent of the Holder.

10. GOVERNING LAW; JURISDICTION; JURY TRIAL. This Warrant shall be governed by and construed and enforced in accordance with, and all questions concerning the construction, validity, interpretation and performance of this Warrant shall be governed by, the internal laws of the State of New York, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of New York or any other jurisdictions) that would cause the application of the laws of any jurisdictions other than the State of New York. The Company hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in The City of New York, Borough of Manhattan, for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is brought in an inconvenient forum or that the venue of such suit, action or proceeding is improper. The Company hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof to the Company at the address set forth in Section 8(i) above or such other address as the Company subsequently delivers to the Holder and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law. Nothing contained herein shall be deemed or operate to preclude the Holder from bringing suit or taking other legal action against the Company in any other jurisdiction to collect on the Company's obligations to the Holder, to realize on any collateral or any other security for such obligations, or to enforce a judgment or other court ruling in favor of the Holder. If either party shall commence an action, suit or proceeding to enforce any provisions of this Warrant, the prevailing party in such action, suit or proceeding shall be reimbursed by the other party for their reasonable attorneys' fees and other costs and expenses incurred with the investigation, preparation and prosecution of such action or proceeding. **THE COMPANY HEREBY IRREVOCABLY WAIVES ANY RIGHT IT MAY HAVE, AND AGREES NOT TO REQUEST, A JURY TRIAL FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION WITH OR ARISING OUT OF THIS WARRANT OR ANY TRANSACTION CONTEMPLATED HEREBY.**

11. DISPUTE RESOLUTION. In the case of a dispute as to the determination of the Exercise Price or the arithmetic calculation of the Warrant Shares, the Company shall submit the disputed determinations or arithmetic calculations via facsimile or electronic mail within two (2) Business Days of receipt of the Exercise Notice or other event giving rise to such dispute, as the case may be, to the Holder. If the Holder and the Company are unable to agree upon such determination or calculation of the Exercise Price or the Warrant Shares within three (3) Business Days of such disputed determination or arithmetic calculation being submitted to the Holder, then the Company shall, within two (2) Business Days submit via facsimile or electronic mail (a) the disputed determination of the Exercise Price to an independent, reputable investment bank selected by the Company and approved by the Holder or (b) the disputed arithmetic calculation of the Warrant Shares to the Company's independent, outside accountant. The Company shall cause at its expense the investment bank or the accountant, as the case may be, to perform the determinations or calculations and notify the Company and the Holder of the results no later than ten (10) Business Days from the time it receives the disputed determinations or calculations. Such investment bank's or accountant's determination or calculation, as the case may be, shall be binding upon all parties absent demonstrable error.

12. REMEDIES, OTHER OBLIGATIONS, BREACHES AND INJUNCTIVE RELIEF. The remedies provided in this Warrant shall be cumulative and in addition to all other remedies available under this Warrant and any other Transaction Documents, at law or in equity (including a decree of specific performance and/or other injunctive relief), and nothing herein shall limit the right of the Holder to pursue actual damages for any failure by the Company to comply with the terms of this Warrant. The Company acknowledges that a breach by it of its obligations hereunder will cause irreparable harm to the Holder and that the remedy at law for any such breach may be inadequate. The Company therefore agrees that, in the event of any such breach or threatened breach, the holder of this Warrant shall be entitled, in addition to all other available remedies, to an injunction restraining any breach, without the necessity of showing economic loss and without any bond or other security being required.

13. TRANSFER. This Warrant and the Warrant Shares may be offered for sale, sold, transferred, pledged or assigned without the consent of the Company.

14. SEVERABILITY; CONSTRUCTION; HEADINGS. If any provision of this Warrant is prohibited by law or otherwise determined to be invalid or unenforceable by a court of competent jurisdiction, the provision that would otherwise be prohibited, invalid or unenforceable shall be deemed amended to apply to the broadest extent that it would be valid and enforceable, and the invalidity or unenforceability of such provision shall not affect the validity of the remaining provisions of this Warrant so long as this Warrant as so modified continues to express, without material change, the original intentions of the parties as to the subject matter hereof and the prohibited nature, invalidity or unenforceability of the provision(s) in question does not substantially impair the respective expectations or reciprocal obligations of the parties or the practical realization of the benefits that would otherwise be conferred upon the parties. The parties will endeavor in good faith negotiations to replace the prohibited, invalid or unenforceable provision(s) with a valid provision(s), the effect of which comes as close as possible to that of the prohibited, invalid or unenforceable provision(s). This Warrant shall be deemed to be jointly drafted by the Company and the Holder and shall not be construed against any Person as the drafter hereof. The headings of this Warrant are for convenience of reference and shall not form part of, or affect the interpretation of, this Warrant.

15. DISCLOSURE. Upon receipt or delivery by the Company of any notice in accordance with the terms of this Warrant, unless the Company has in good faith determined that the matters relating to such notice do not constitute material, nonpublic information relating to the Company or its subsidiaries, the Company shall contemporaneously with any such receipt or delivery publicly disclose such material, nonpublic information on a Current Report on Form 8-K or otherwise. In the event that the Company believes that a notice contains material, nonpublic information relating to the Company or its subsidiaries, the Company so shall indicate to such Holder contemporaneously with delivery of such notice, and in the absence of any such indication, the Holder shall be allowed to presume that all matters relating to such notice do not constitute material, nonpublic information relating to the Company or its subsidiaries.

16. CERTAIN DEFINITIONS. For purposes of this Warrant, the following terms shall have the following meanings:

(a) "**Affiliate**" means, with respect to any Person, any other Person that directly or indirectly controls, is controlled by, or is under common control with, such Person, it being understood for purposes of this definition that "control" of a Person means the power directly or indirectly either to vote 10% or more of the stock having ordinary voting power for the election of directors of such Person or direct or cause the direction of the management and policies of such Person whether by contract or otherwise.

(b) "**Attribution Parties**" means, collectively, the following Persons and entities: (i) any investment vehicle, including, any funds, feeder funds or managed accounts, currently, or from time to time after the Subscription Date, directly or indirectly managed or advised by the Holder's investment manager or any of its Affiliates or principals, (ii) any direct or indirect Affiliates of the Holder or any of the foregoing, (iii) any Person acting or who could be deemed to be acting as a Group together with the Holder or any of the foregoing and (iv) any other Persons whose beneficial ownership of the Company's Common Stock would or could be aggregated with the Holder's and the other Attribution Parties for purposes of Section 13(d) of the 1934 Act. For clarity, the purpose of the foregoing is to subject collectively the Holder and all other Attribution Parties to the Maximum Percentage.

(c) "**Bid Price**" means, for any security as of the particular time of determination, the bid price for such security on the Principal Market as reported by Bloomberg as of such time of determination, or, if the Principal Market is not the principal securities exchange or trading market for such security, the bid price of such security on the principal securities exchange or trading market where such security is listed or traded as reported by Bloomberg as of such time of determination, or if the foregoing does not apply, the bid price of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg as of such time of determination, or, if no bid price is reported for such security by Bloomberg as of such time of determination, the average of the bid prices of any market makers for such security as reported on the Pink Open Market as of such time of determination. If the Bid Price cannot be calculated for a security as of the particular time of determination on any of the foregoing bases, the Bid Price of such security as of such time of determination shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved in accordance with the procedures in Section 11. All such determinations shall be appropriately adjusted for any stock dividend, stock split, stock combination or other similar transaction during such period.

(d) "**Black Scholes Value**" means the value of this Warrant based on the Black-Scholes Option Pricing Model obtained from the "OV" function on Bloomberg determined as of the day immediately following the first public announcement of the applicable Change of Control, or, if the Change of Control is not publicly announced, the date the Change of Control is consummated, for pricing purposes and reflecting (i) a risk-free interest rate corresponding to the U.S. Treasury rate for a period equal to the remaining term of this Warrant as of such date of request, (ii) an expected volatility equal to 100% (iii) the underlying price per share used in such calculation shall be the greater of (a) the highest Weighted Average Price during the five (5) Trading Days prior to the closing of the Change of Control and (b) the sum of the price per share being offered in cash, if any, plus the value of any non-cash consideration, if any, being offered in such Change of Control, (iv) a zero cost of borrow and (v) a 360 day annualization factor.

(e) "**Bloomberg**" means Bloomberg Financial Markets.

(f) "**Business Day**" means any day other than Saturday, Sunday or other day on which commercial banks in The City of New York are authorized or required by law to remain closed.

(g) "**Change of Control**" means any Fundamental Transaction other than (i) any reorganization, recapitalization or reclassification of the Common Stock in which holders of the Company's voting power immediately prior to such reorganization, recapitalization or reclassification continue after such reorganization, recapitalization or reclassification to hold publicly traded securities and, directly or indirectly, are, in all material respect, the holders of the voting power of the surviving entity (or entities with the authority or voting power to elect the members of the board of directors (or their equivalent if other than a corporation) of such entity or entities) after such reorganization, recapitalization or reclassification, (ii) pursuant to a migratory merger effected solely for the purpose of changing the jurisdiction of incorporation of the Company or (iii) a merger in connection with a bona fide acquisition by the Company of any Person in which (x) the gross consideration paid, directly or indirectly, by the Company in such acquisition is not greater than 20% of the Company's market capitalization as calculated on the date of the consummation of such merger and (y) such merger does not contemplate a change to the identity of a majority of the board of directors of the Company. Notwithstanding anything herein to the contrary, any transaction or series of transaction that, directly or indirectly, results in the Company or the Successor Entity not having Common Stock or common stock, as applicable, registered under the 1934 Act and listed on an Eligible Market shall be deemed a Change of Control.

(h) "**Closing Bid Price**" and "**Closing Sale Price**" means, for any security as of any date, the last closing bid price and last closing trade price, respectively, for such security on the Principal Market, as reported by Bloomberg, or, if the Principal Market begins to operate on an extended hours basis and does not designate the closing bid price or the closing trade price, as the case may be, then the last bid price or the last trade price, respectively, of such security prior to 4:00:00 p.m., New York time, as reported by Bloomberg, or, if the Principal Market is not the principal securities exchange or trading market for such security, the last closing bid price or last trade price, respectively, of such security on the principal securities exchange or trading market where such security is listed or traded as reported by Bloomberg, or if the foregoing do not apply, the last closing bid price or last trade price, respectively, of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg, or, if no closing bid price or last trade price, respectively, is reported for such security by Bloomberg, the average of the bid prices, or the ask prices, respectively, of any market makers for such security as reported in the OTC Link or on the Pink Open Market. If the Closing Bid Price or the Closing Sale Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Closing Bid Price or the Closing Sale Price, as the case may be, of such security on such date shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved pursuant to Section 11. All such determinations to be appropriately adjusted for any stock dividend, stock split, stock combination, reclassification or other similar transaction during the applicable calculation period.

(i) "**Common Stock**" means (i) the Company's Common Stock, par value \$0.01 per share, and (ii) any capital stock into which such Common Stock shall have been changed or any capital stock resulting from a reclassification of such Common Stock.

(j) "**Convertible Securities**" means any stock or securities (other than Options) directly or indirectly convertible into or exercisable or exchangeable for shares of Common Stock.

(k) "**Eligible Market**" means The NASDAQ Capital Market, the NYSE American LLC, The NASDAQ Global Select Market, The NASDAQ Global Market or The New York Stock Exchange, Inc.

(l) "**Expiration Date**" means the date sixty (60) months after the Initial Exercisability Date or, if such date falls on a day other than a Business Day or on which trading does not take place on the Principal Market (a "**Holiday**"), the next day that is not a Holiday.

(m) "**Fundamental Transaction**" means (A) that the Company shall, directly or indirectly, including through subsidiaries, Affiliates or otherwise, in one or more related transactions, (i) consolidate or merge with or into (whether or not the Company is the surviving corporation) another Subject Entity, or (ii) sell, assign, transfer, convey or otherwise dispose of all or substantially all of the properties or assets of the Company or any of its "significant subsidiaries" (as defined in Rule 1-02 of Regulation S-X) to one or more Subject Entities, or (iii) make, or allow one or more Subject Entities to make, or allow the Company to be subject to or have its shares of Common Stock be subject to or party to one or more Subject Entities making, a purchase, tender or exchange offer that is accepted by the holders of at least either (x) 50% of the outstanding shares of Common Stock, (y) 50% of the outstanding shares of Common Stock calculated as if any shares of Common Stock held by all Subject Entities making or party to, or Affiliated with any Subject Entities making or party to, such purchase, tender or exchange offer were not outstanding; or (z) such number of shares of Common Stock such that all Subject Entities making or party to, or Affiliated with any Subject Entity making or party to, such purchase, tender or exchange offer, become collectively the beneficial owners (as defined in Rule 13d-3 under the 1934 Act) of at least 50% of the outstanding shares of Common Stock, or (iv) consummate a stock purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with one or more Subject Entities whereby all such Subject Entities, individually or in the aggregate, acquire, either (x) at least 50% of the outstanding shares of Common Stock, (y) at least 50% of the outstanding shares of Common Stock calculated as if any shares of Common Stock held by all the Subject Entities making or party to, or Affiliated with any Subject Entity making or party to, such stock purchase agreement or other business combination were not outstanding; or (z) such number of shares of Common Stock such that the Subject Entities become collectively the beneficial owners (as defined in Rule 13d-3 under the 1934 Act) of at least 50% of the outstanding shares of Common Stock, or (v) reorganize, recapitalize or reclassify its shares of Common Stock, (B) that the Company shall, directly or indirectly, including through subsidiaries, Affiliates or otherwise, in one or more related transactions, allow any Subject Entity individually or the Subject Entities in the aggregate to be or become the "beneficial owner" (as defined in Rule 13d-3 under the 1934 Act), directly or indirectly, whether through acquisition, purchase, assignment, conveyance, tender, tender offer, exchange, reduction in outstanding shares of Common Stock, merger, consolidation, business combination, reorganization, recapitalization, spin-off, scheme of arrangement, reorganization, recapitalization or reclassification or otherwise in any manner whatsoever, of either (x) at least 50% of the aggregate ordinary voting power represented by issued and outstanding shares of Common Stock, (y) at least 50% of the aggregate ordinary voting power represented by issued and outstanding shares of Common Stock not held by all such Subject Entities as of the Subscription Date calculated as if any shares of Common Stock held by all such Subject Entities were not outstanding, or (z) a percentage of the aggregate ordinary voting power represented by issued and outstanding shares of Common Stock or other equity securities of the Company sufficient to allow such Subject Entities to effect a statutory short form merger or other transaction requiring other stockholders of the Company to surrender their Common Stock without approval of the stockholders of the Company or (C) directly or indirectly, including through subsidiaries, Affiliates or otherwise, in one or more related transactions, the issuance of or the entering into any other instrument or transaction structured in a manner to circumvent, or that circumvents, the intent of this definition in which case this definition shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this definition to the extent necessary to correct this definition or any portion of this definition which may be defective or inconsistent with the intended treatment of such instrument or transaction.

(n) "**Group**" means a "group" as that term is used in Section 13(d) of the 1934 Act and as defined in Rule 13d-5 thereunder.

(o) "**Options**" means any rights, warrants or options to subscribe for or purchase shares of Common Stock or Convertible Securities.

(p) "**Parent Entity**" of a Person means an entity that, directly or indirectly, controls the applicable Person, including such entity whose common stock or equivalent equity security is quoted or listed on an Eligible Market (or, if so elected by the Holder, any other market, exchange or quotation system), or, if there is more than one such Person or such entity, the Person or such entity designated by the Holder or in the absence of such designation, such Person or entity with the largest public market capitalization as of the date of consummation of the Fundamental Transaction or Change of Control.

(q) "**Person**" means an individual, a limited liability company, a partnership, a joint venture, a corporation, a trust, an unincorporated organization, any other entity and a government or any department or agency thereof.

(r) "**Principal Market**" means the New York Stock Exchange.

(s) "**Required Holders**" means the holders of the Warrants representing at least a majority of the shares of Common Stock underlying the Warrants then outstanding.

(t) "**Standard Settlement Period**" means the standard settlement period, expressed in a number of Trading Days, for the Company's primary trading market or quotation system with respect to the Common Stock that is in effect on the date of receipt of an applicable Exercise Notice.

(u) "**Subject Entity**" means any Person, Persons or Group or any Affiliate or associate of any such Person, Persons or Group.

(v) "**Successor Entity**" means one or more Person or Persons (or, if so elected by the Holder, the Company or Parent Entity) formed by, resulting from or surviving any Fundamental Transaction or Change of Control or one or more Person or Persons (or, if so elected by the Holder, the Company or the Parent Entity) with which such Fundamental Transaction or Change of Control shall have been entered into.

(w) "**Trading Day**" means any day on which the Common Stock is traded on the Principal Market, or, if the Principal Market is not the principal trading market for the Common Stock, then on the principal securities exchange or securities market on which the Common Stock is then traded.

(x) "**Transaction Documents**" means any agreement entered into by and between the Company and the Holder, as applicable.

(y) "**Weighted Average Price**" means, for any security as of any date, the dollar volume-weighted average price for such security on the Principal Market during the period beginning at 9:30:01 a.m., New York time (or such other time as the Principal Market publicly announces is the official open of trading), and ending at 4:00:00 p.m., New York time (or such other time as the Principal Market publicly announces is the official close of trading), as reported by Bloomberg through its "Volume at Price" function or, if the foregoing does not apply, the dollar volume-weighted average price of such security in the over-the-counter market on the electronic bulletin board for such security during the period beginning at 9:30:01 a.m., New York time (or such other time as such market publicly announces is the official open of trading), and ending at 4:00:00 p.m., New York time (or such other time as such market publicly announces is the official close of trading), as reported by Bloomberg, or, if no dollar volume-weighted average price is reported for such security by Bloomberg for such hours, the average of the highest Closing Bid Price and the lowest closing ask price of any of the market makers for such security as reported in the OTC Link or on the Pink Open Market. If the Weighted Average Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Weighted Average Price of such security on such date shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved pursuant to Section 11 with the term "Weighted Average Price" being substituted for the term "Exercise Price." All such determinations shall be appropriately adjusted for any stock dividend, stock split, stock combination, reclassification or other similar transaction during the applicable calculation period.

[Signature Page Follows]

IN WITNESS WHEREOF, the Company has caused this Warrant to Purchase Common Stock to be duly executed as of the Issuance Date set out above.

ION GEOPHYSICAL CORPORATION

By: _____

Name:

Title:

EXERCISE NOTICE

TO BE EXECUTED BY THE REGISTERED HOLDER TO EXERCISE THIS
SERIES B WARRANT TO PURCHASE COMMON STOCK

ION GEOPHYSICAL CORPORATION

The undersigned holder hereby exercises the right to purchase _____ shares of Common Stock ("**Warrant Shares**") of ION Geophysical Corporation, a company organized under the laws of Delaware (the "**Company**"), evidenced by the attached Series B Warrant to Purchase Common Stock (the "**Warrant**"). Capitalized terms used herein and not otherwise defined shall have the respective meanings set forth in the Warrant.

1. Form of Exercise Price. The Holder intends that payment of the Exercise Price shall be made as:

_____ a "Cash Exercise" with respect to _____ Warrant Shares; and/or

_____ a "Cashless Exercise" with respect to _____ Warrant Shares.

2. Payment of Exercise Price. In the event that the holder has elected a Cash Exercise with respect to some or all of the Warrant Shares to be issued pursuant hereto, the holder shall pay the Aggregate Exercise Price in the sum of \$_____ to the Company in accordance with the terms of the Warrant.

3. Delivery of Warrant Shares. The Company shall deliver to the holder _____ Warrant Shares in accordance with the terms of the Warrant.

Date: _____, _____

Name of Registered Holder

By: _____

Name:

Title:

ACKNOWLEDGMENT

The Company hereby acknowledges this Exercise Notice and hereby directs Computershare Inc. to issue the above indicated number of shares of Common Stock on or prior to the applicable Share Delivery Date.

ION GEOPHYSICAL CORPORATION

By: _____
Name:
Title:

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We have issued our reports dated February 11, 2021 with respect to the consolidated financial statements, schedule, and internal control over financial reporting of ION Geophysical Corporation included in the Annual Report on Form 10-K, as amended by Form 10-K/A for the year ended December 31, 2020, which are incorporated by reference in this Registration Statement. We consent to the incorporation by reference of the aforementioned reports in this Registration Statement, and to the use of our name as it appears under the caption "Experts."

/s/ GRANT THORNTON LLP

Houston, Texas

July 7, 2021
