

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549**

FORM 10-Q

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

FOR THE QUARTERLY PERIOD ENDED MARCH 31, 2020

OR

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

COMMISSION FILE NUMBER: 1-12691

ION GEOPHYSICAL CORPORATION

(EXACT NAME OF REGISTRANT AS SPECIFIED IN ITS CHARTER)

DELAWARE

**(State or other jurisdiction of
incorporation or organization)**

22-2286646

**(I.R.S. Employer
Identification No.)**

2105 CityWest Blvd. Suite 100

Houston, Texas

(Address of principal executive offices)

77042-2839

(Zip Code)

REGISTRANT'S TELEPHONE NUMBER, INCLUDING AREA CODE: (281) 933-3339

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

Title of each class	Trading symbol(s)	Name of each exchange on which registered
Common Stock, \$0.01 par value	IO	New York Stock Exchange

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

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	o	Accelerated filer	<input checked="" type="checkbox"/>
Non-accelerated filer	o	Smaller reporting company	o
		Emerging growth company	o

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 13(a) of the Exchange Act.

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

At May 4, 2020, there were 15,036,648 shares of common stock, par value \$0.01 per share, outstanding.

ION GEOPHYSICAL CORPORATION AND SUBSIDIARIES
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PART I. FINANCIAL INFORMATION
Item 1. Financial Statements

ION GEOPHYSICAL CORPORATION AND SUBSIDIARIES
CONDENSED CONSOLIDATED BALANCE SHEETS
(UNAUDITED)

	March 31, 2020	December 31, 2019
	(In thousands, except share data)	
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 42,663	\$ 33,065
Accounts receivable, net	51,149	29,548
Unbilled receivables	8,356	11,815
Inventories, net	12,820	12,187
Prepaid expenses and other current assets	5,681	6,012
Total current assets	120,669	92,627
Deferred income tax asset, net	7,905	8,734
Property, plant and equipment, net	12,706	13,188
Multi-client data library, net	54,344	60,384
Goodwill	18,298	23,585
Right-of-use assets	42,166	32,546
Other assets	3,299	2,130
Total assets	\$ 259,387	\$ 233,194
LIABILITIES AND DEFICIT		
Current liabilities:		
Current maturities of long-term debt	\$ 28,646	\$ 2,107
Accounts payable	43,827	49,316
Accrued expenses	29,078	30,328
Accrued multi-client data library royalties	21,424	18,831
Deferred revenue	4,882	4,551
Current maturities of operating lease liabilities	9,873	11,055
Total current liabilities	137,730	116,188
Long-term debt, net of current maturities	119,296	119,352
Operating lease liabilities, net of current maturities	40,531	30,833
Other long-term liabilities	433	1,453
Total liabilities	297,990	267,826
Deficit:		
Common stock, \$0.01 par value; authorized 26,666,667 shares; outstanding 14,240,126 and 14,224,787 shares at March 31, 2020 and December 31, 2019, respectively.	142	142
Additional paid-in capital	957,254	956,647
Accumulated deficit	(976,554)	(974,291)
Accumulated other comprehensive loss	(21,099)	(19,318)
Total stockholders' deficit	(40,257)	(36,820)
Noncontrolling interest	1,654	2,188
Total deficit	(38,603)	(34,632)
Total liabilities and deficit	\$ 259,387	\$ 233,194

See accompanying Footnotes to Condensed Consolidated Financial Statements.

ION GEOPHYSICAL CORPORATION AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(UNAUDITED)

	Three Months Ended March 31,	
	2020	2019
(In thousands, except per share data)		
Service revenues	\$ 47,485	\$ 28,128
Product revenues	8,929	8,828
Total net revenues	56,414	36,956
Cost of services	22,275	22,446
Cost of products	4,628	4,598
Impairment of multi-client data library	1,167	—
Gross profit	28,344	9,912
Operating expenses:		
Research, development and engineering	4,008	5,357
Marketing and sales	4,858	5,793
General, administrative and other operating expenses	9,002	14,699
Impairment of goodwill	4,150	—
Total operating expenses	22,018	25,849
Income (loss) from operations	6,326	(15,937)
Interest expense, net	(3,221)	(3,112)
Other income (expense), net	429	(792)
Income (loss) before income taxes	3,534	(19,841)
Income tax expense	5,874	1,407
Net loss	(2,340)	(21,248)
Less: Net (income) loss attributable to noncontrolling interest	77	(112)
Net loss attributable to ION	\$ (2,263)	\$ (21,360)
Net loss per share:		
Basic	\$ (0.16)	\$ (1.52)
Diluted	\$ (0.16)	\$ (1.52)
Weighted average number of common shares outstanding:		
Basic	14,230	14,033
Diluted	14,230	14,033

See accompanying Footnotes to Condensed Consolidated Financial Statements.

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

	Three Months Ended March 31,	
	2020	2019
	(In thousands)	
Net loss	\$ (2,340)	\$ (21,248)
Other comprehensive loss, net of taxes, as appropriate:		
Foreign currency translation adjustments	(1,781)	970
Total other comprehensive income (loss), net of taxes	(1,781)	970
Comprehensive net loss	(4,121)	(20,278)
Comprehensive (income) loss attributable to noncontrolling interest	77	(112)
Comprehensive net loss attributable to ION	\$ (4,044)	\$ (20,390)

See accompanying Footnotes to Condensed Consolidated Financial Statements.

ION GEOPHYSICAL CORPORATION AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(UNAUDITED)

	Three Months Ended March 31,	
	2020	2019
	(In thousands)	
Cash flows from operating activities:		
Net loss	\$ (2,340)	\$ (21,248)
Adjustments to reconcile net loss to cash (used in) provided by operating activities:		
Depreciation and amortization (other than multi-client data library)	840	1,035
Amortization of multi-client data library	8,020	11,100
Stock-based compensation expense	617	1,293
Impairment of multi-client data library	1,167	—
Impairment of goodwill	4,150	—
Deferred income taxes	421	(1,398)
Changes in operating assets and liabilities:		
Accounts receivable	(21,868)	(2,870)
Unbilled receivables	2,666	29,498
Inventories	(772)	81
Accounts payable, accrued expenses and accrued royalties	1,688	(2,013)
Deferred revenue	355	(333)
Other assets and liabilities	(1,910)	253
Net cash (used in) provided by operating activities	(6,966)	15,398
Cash flows from investing activities:		
Investment in multi-client data library	(9,668)	(8,767)
Purchase of property, plant and equipment	(496)	(807)
Net cash used in investing activities	(10,164)	(9,574)
Cash flows from financing activities:		
Borrowings under revolving line of credit	27,000	—
Payments on notes payable and long-term debt	(760)	(715)
Other financing activities	(10)	(239)
Net cash provided by (used in) financing activities	26,230	(954)
Effect of change in foreign currency exchange rates on cash, cash equivalents and restricted cash	470	81
Net increase in cash, cash equivalents and restricted cash	9,570	4,951
Cash, cash equivalents and restricted cash at beginning of period	33,118	33,854
Cash, cash equivalents and restricted cash at end of period	\$ 42,688	\$ 38,805

See accompanying Footnotes to Condensed Consolidated Financial Statements.

ION GEOPHYSICAL CORPORATION AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' DEFICIT
(UNAUDITED)

Three Months Ended March 31, 2020

(In thousands, except shares)	Common Stock		Additional Paid- In Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Noncontrolling Interests	Total Deficit
	Shares	Amount					
Balance at January 1, 2020	14,224,787	\$ 142	\$ 956,647	\$ (974,291)	\$ (19,318)	\$ 2,188	\$ (34,632)
Comprehensive income (loss):							
Net loss	—	—	—	(2,263)	—	(77)	(2,340)
Translation adjustments	—	—	—	—	(1,781)	(457)	(2,238)
Stock-based compensation expense	—	—	617	—	—	—	617
Vesting of restricted stock units/awards	16,089	—	—	—	—	—	—
Vested restricted stock cancelled for employee minimum income taxes	(750)	—	(10)	—	—	—	(10)
Balance at March 31, 2020	14,240,126	\$ 142	\$ 957,254	\$ (976,554)	\$ (21,099)	\$ 1,654	\$ (38,603)

Three Months Ended March 31, 2019

(In thousands, except shares)	Common Stock		Additional Paid- In Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Noncontrolling Interests	Total Deficit
	Shares	Amount					
Balance at January 1, 2019	14,015,615	\$ 140	\$ 952,626	\$ (926,092)	\$ (20,442)	\$ 1,592	\$ 7,824
Comprehensive income (loss):							
Net (loss) income	—	—	—	(21,360)	—	112	(21,248)
Translation adjustments	—	—	—	—	970	(39)	931
Stock-based compensation expense	—	—	1,293	—	—	—	1,293
Exercise of stock options	5,750	—	18	—	—	—	18
Vesting of restricted stock units/awards	68,199	1	(1)	—	—	—	—
Vested restricted stock cancelled for employee minimum income taxes	(20,044)	—	(257)	—	—	—	(257)
Balance at March 31, 2019	14,069,520	\$ 141	\$ 953,679	\$ (947,452)	\$ (19,472)	\$ 1,665	\$ (11,439)

See accompanying Footnotes to Condensed Consolidated Financial Statements.

ION GEOPHYSICAL CORPORATION AND SUBSIDIARIES
FOOTNOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(UNAUDITED)

(1) Summary of Significant Accounting Policies

Basis of Presentation

The condensed consolidated balance sheet of ION Geophysical Corporation and its subsidiaries (collectively referred to as the “Company” or “ION,” unless the context otherwise requires) at December 31, 2019, has been derived from the Company’s audited consolidated financial statements at that date. The condensed consolidated balance sheet at March 31, 2020, and the condensed consolidated statements of operations, comprehensive loss, condensed consolidated statements of stockholders’ deficit, and cash flows for the three months ended March 31, 2020 and 2019, are unaudited. In the opinion of management, all adjustments of a normal recurring nature that are necessary for a fair presentation of the results of the interim period have been included. Interim results are not necessarily indicative of the operating results for a full year or of future operations. Intercompany transactions and balances have been eliminated.

The Company’s condensed consolidated financial statements reflect a non-redeemable noncontrolling interest in a majority-owned affiliate which is reported as a separate component of equity in “Noncontrolling interest” in the condensed consolidated balance sheets. Net income attributable to noncontrolling interest is stated separately in the condensed consolidated statements of operations. The activity for this noncontrolling interest relates to proprietary processing projects in Brazil.

These condensed consolidated financial statements have been prepared using accounting principles generally accepted in the United States (“GAAP”) for interim financial information and the instructions to Form 10-Q and applicable rules of Regulation S-X of the Securities and Exchange Commission (the “SEC”). Certain information and footnote disclosures normally included in annual financial statements presented in accordance with GAAP have been omitted. The accompanying condensed consolidated financial statements should be read in conjunction with the Company’s Annual Report on Form 10-K for the year ended December 31, 2019.

Overview

The COVID-19 pandemic caused the global economy to enter a recessionary period, which may be prolonged and severe, and significantly reduced the availability of capital and liquidity from banks and other providers of credit. The E&P industry is facing the double impact of demand destruction from COVID-19 and market oversupply from increased production, which caused oil and natural gas prices to decline significantly since the start of the year. While Organization of the Petroleum Exporting Countries (“OPEC”) and other oil producing countries agreed to a production cut in April 2020, oil prices nonetheless declined further to record low levels during the month. While commodity prices can be volatile, this sharp decline triggered E&P companies to reduce budgets and will likely curtail demand for some of the Company’s products and services. Spending on exploration tends to be among the most discretionary and is expected to bear some of the deepest cuts in percentage terms, although spending reductions in the offshore basins where the Company operates are projected to be less severe than onshore in the United States.

While the duration and extent of COVID-19 is difficult to predict, the Company recorded its highest first quarter revenues since 2014. A number of large multi-client contracts were closed in the first quarter 2020, some of which were delayed from the fourth quarter 2019, even after E&P market dynamics changed. The Company worked closely with clients to assess the effect of E&P budget reductions to its business and took decisive action to proactively manage its business. To mitigate the impact of COVID-19 and oil price volatility, management implemented a plan to preserve cash and manage liquidity as follows:

- Scaling down personnel costs and operating expenses by another \$18.0 million during the remaining nine months of 2020, building on the over \$20.0 million (net of severance expense of \$3.1 million) of cuts made in January 2020. These further reductions are primarily through a variety of furlough programs and reduced compensation arrangements across the Company’s worldwide workforce. The Company executives have taken a 20% base salary reduction and a tiered reduction scheme has been cascaded to the rest of the worldwide workforce. The Company’s Board of Directors has taken a 20% reduction in directors’ fees. In addition, the Company has curtailed use of external contractors, decreased travel and event costs and implemented new systems and processes that more efficiently support its business.
- Reducing capital expenditures to an estimated \$20.0 million to \$35.0 million (a portion of which will be pre-funded or underwritten by the customers), down from \$35.0 million to \$50.0 million, to reflect both reduced seismic demand and travel/border restrictions impacting new data acquisition offshore. This provides flexibility to aggressively reduce cash outflows while shifting to much lower cost reimaging programs.

- Applied for various government assistance programs of which \$6.9 million has been received in April 2020. Receipt of this \$6.9 million allowed the Company to avoid further staff reductions while supporting its ongoing operations. Additional global government relief of between \$2.0 million to \$7.0 million may be possible.
- Announced the sale of its interest in INOVA Geophysical for \$12.0 million that is expected to close during the second half of the year, subject to regulatory approvals and other closing conditions.
- Entered into a settlement agreement with WesternGeco ending the uncertainty surrounding the decade-long patent litigation. See Note 8 “*Litigation*” for further details.
- In addition, the Company reviewed its debt covenants and expects that it will remain in compliance for the next twelve months.

The Company believes that the above management plan, including actions already taken, gives the Company the ability to operate for at least the next twelve months from the date the condensed consolidated financial statements are issued.

Significant Accounting Policies

The Company’s significant accounting policies are disclosed in Note 1 “*Summary of Significant Accounting Policies.*” of the Annual Report on Form 10-K for the year ended December 31, 2019. There have been no changes in such policies or the application of such policies during the three months ended March 31, 2020 except as discussed in Note 2 “*Recent Accounting Pronouncements.*”

Use of Estimates

The preparation of condensed consolidated financial statements in conformity with GAAP requires the use of estimates and assumptions by management that affects the reported amounts in the condensed consolidated financial statements and accompanying notes. Areas involving significant estimates include, but are not limited to, accounts and unbilled receivables, inventory valuation, sales forecast related to multi-client data library, impairment of property, plant and equipment and goodwill and deferred taxes. Actual results could materially differ from those estimates.

(2) Recent Accounting Pronouncements

Accounting Pronouncements Recently Adopted

On January 1, 2020, the Company adopted Accounting Standards Update (“ASU”) No. 2016-13, “*Financial Instruments - Credit Losses: Measurement of Credit Losses on Financial Instruments.*” The guidance replaces the incurred loss impairment methodology under the current GAAP with a methodology that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information to inform credit loss estimates referred to as the current expected credit loss (“CECL”) methodology. The measurement of expected credit losses under the CECL methodology is applicable to financial assets ranging from short-term accounts receivables to long-term receivable financing. The Company adopted the standard using the prospective transition approach for its trade receivables and unbilled receivables. The adoption of the standard had no material impact on the Company’s condensed consolidated financial statements.

On January 1, 2020, the Company adopted ASU 2017-04, “*Intangibles—Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment.*” This guidance simplifies the accounting for goodwill impairment by eliminating step 2 from the goodwill impairment test. As a result, an entity should recognize a goodwill impairment charge for the amount by which the reporting unit’s carrying amount exceeds its fair value. If fair value exceeds the carrying amount, no impairment should be recorded. Any loss recognized should not exceed the total amount of goodwill allocated to that reporting unit. Impairment loss on goodwill cannot be reversed once recognized. The goodwill balance at March 31, 2020 before impairment charge was comprised of \$19.5 million in the Optimization Software & Services and \$2.9 million in the E&P Technology & Services reporting units. The Company recognized an impairment charge related to the goodwill of its Optimization Software & Service reporting unit, included within Operations Optimization segment, of \$4.2 million for the three months ended March 31, 2020. See Note 9 “*Details of Selected Balance Sheet Accounts*” for details.

(3) Segment Information

The Company evaluates and reviews its results of operations based on two reporting segments: E&P Technology & Services and Operations Optimization. Refer to Item 2. “*Management’s Discussion and Analysis of Financial Condition and Results of Operations*” for information about each business segment’s business, products and services.

The segments represent components of the Company for which separate financial information is available that is utilized on a regular basis by the Chief Operating Decision Maker in determining how to allocate resources and evaluate performance. The Company measures segment operating results based on income (loss) from operations.

The following table is a summary of segment information (in thousands):

	Three Months Ended March 31,	
	2020	2019
Net revenues:		
E&P Technology & Services:		
New Venture	\$ 1,441	\$ 13,471
Data Library	40,131	9,948
Total multi-client revenues	41,572	23,419
Imaging and Reservoir Services	4,942	3,684
Total	46,514	27,103
Operations Optimization:		
Optimization Software & Services	4,427	5,033
Devices	5,473	4,820
Total	9,900	9,853
Total net revenues	\$ 56,414	\$ 36,956
Gross profit (loss):		
E&P Technology & Services	\$ 23,730 ^(a)	\$ 5,440
Operations Optimization	4,614	4,516
Segment gross profit	28,344	9,956
Other	—	(44)
Total gross profit	\$ 28,344	\$ 9,912
Gross margin:		
E&P Technology & Services	51%	20%
Operations Optimization	47%	46%
Total gross margin	50%	27%
Income (loss) from operations:		
E&P Technology & Services	\$ 17,952 ^(a)	\$ (1,615)
Operations Optimization	(3,259) ^(b)	170
Support and other	(8,367)	(14,492)
Income (loss) from operations	6,326	(15,937)
Interest expense, net	(3,221)	(3,112)
Other income (expense), net	429	(792)
Income (loss) before income taxes	\$ 3,534	\$ (19,841)

^(a) Includes impairment of multi-client data library of \$1.2 million for the three months ended March 31, 2020.

^(b) Includes impairment of goodwill of \$4.2 million for the three months ended March 31, 2020.

Intersegment sales are insignificant for all periods presented.

(4) Revenue From Contracts With Customers

The Company derives revenue from the (i) sale or license of multi-client and proprietary data, imaging services and reservoir services within its E&P Technologies & Services segment; (ii) sale, license and repair of seismic data acquisition systems and other equipment; and (iii) sale or license of seismic command and control software systems and software solutions for operations management within its Operations Optimization segment. All E&P Technology & Services' revenues and the services component of Optimization Software & Services' revenues under Operations Optimization segment are classified as service revenues. All other revenues are classified as product revenues.

The Company uses a five-step model to determine proper revenue recognition from customer contracts. Revenue is recognized when (i) a contract is approved by all parties; (ii) the goods or services promised in the contract are identified; (iii) the consideration the Company expects to receive in exchange for the goods or services promised is determined; (iv) the consideration is allocated to the goods and services in the contract; and (v) control of the promised goods or services is transferred to the customer. The Company is not required to disclose information about remaining contractual future performance obligations with an original term of one year or less. The Company does not have any contractual future performance obligations with an original term of over one year.

Revenue by Geographic Area

The following table is a summary of net revenues by geographic area (in thousands):

	Three Months Ended March 31,	
	2020	2019
North America	\$ 31,810	\$ 7,157
Latin America	9,804	13,531
Asia Pacific	9,288	1,867
Europe	3,810	10,392
Middle East	954	1,359
Africa	591	2,389
Other	157	261
Total	\$ 56,414	\$ 36,956

See Note 3 “Segment Information” for revenue by segment for the three months ended March 31, 2020 and 2019.

Unbilled Receivables

Unbilled receivables relate to revenues recognized on multi-client surveys, imaging services and devices equipment repairs on a proportionate basis, and on licensing of multi-client data for which invoices have not yet been presented to the customer. The following table is a summary of unbilled receivables (in thousands):

	March 31, 2020	December 31, 2019
New Venture	\$ 1,586	\$ 5,222
Imaging and Reservoir Services	5,643	6,539
Devices	1,127	54
Total	\$ 8,356	\$ 11,815

The changes in unbilled receivables are as follows (in thousands):

Unbilled receivables at December 31, 2019	\$ 11,815
Recognition of unbilled receivables	55,132
Revenues billed to customers	(58,591)
Unbilled receivables at March 31, 2020	\$ 8,356

Deferred Revenue

Billing practices are governed by the terms of each contract based upon achievement of milestones or pre-agreed schedules. Billing does not necessarily correlate with revenue recognized on a proportionate basis as work is performed and control is transferred to the customer. Deferred revenue represents cash received in excess of revenue recognized as of the reporting period but to be recognized in future periods. The following table is a summary of deferred revenues (in thousands):

	March 31, 2020	December 31, 2019
New Venture	\$ 2,456	\$ 1,956
Imaging and Reservoir Services	1,141	1,501
Optimization Software & Services	832	642
Devices	453	452
Total	\$ 4,882	\$ 4,551

The changes in deferred revenues are as follows (in thousands):

Deferred revenue at December 31, 2019	\$ 4,551
Cash collected in excess of revenue recognized	1,613
Recognition of deferred revenue ^(a)	(1,282)
Deferred revenue at March 31, 2020	\$ 4,882

^(a) The majority of deferred revenue recognized relates to Company's Ventures group.

The Company expects to recognize the majority of deferred revenue within the next 12 months.

Credit Risks

For the three months ended March 31, 2020, the Company had two customers with sales that each exceeded 10% of the Company's consolidated net revenues. For three months ended March 31, 2019, the Company had one customer with sales that exceeded 10% of the Company's consolidated net revenues. Revenues related to each of these customers are included within the E&P Technology & Services segment.

At March 31, 2020, the Company had one customer with balances that accounted for 51% of the Company's total combined accounts receivable and unbilled receivable balances. The Company routinely evaluates the financial stability and creditworthiness of its customers. At March 31, 2019, the Company had two customers with a combined balance that accounted for 26% of the Company's total combined accounts receivable and unbilled receivable balances.

(5) Long-term Debt

The following table is a summary of long-term debt (in thousands):

	March 31, 2020	December 31, 2019
Senior secured second-priority lien notes (<i>maturing December 15, 2021</i>)	\$ 120,569	\$ 120,569
Revolving credit facility (<i>maturing August 16, 2023</i>) ^(a)	27,000	—
Equipment finance leases (Note 11)	1,595	1,869
Other debt	486	972
Costs associated with issuances of debt	(1,708)	(1,951)
Total	147,942	121,459
Current maturities of long-term debt	(28,646)	(2,107)
Long-term debt, net of current maturities	\$ 119,296	\$ 119,352

^(a) The maturity of the Credit Facility will accelerate to October 31, 2021 if the Company is unable to repay or extend the maturity of the Second Lien Notes.

Revolving Credit Facility

On August 16, 2018, ION Geophysical Corporation and its material U.S. subsidiaries — GX Technology Corporation, ION Exploration Products (U.S.A) Inc. and I/O Marine Systems Inc. (the "Material U.S. Subsidiaries") — along with GX Geoscience Corporation, S. de R.L. de C.V., a limited liability company (Sociedad de Responsabilidad Limitada de Capital Variable) organized under the laws of Mexico, and a subsidiary of the Company (the "Mexican Subsidiary") (the Material U.S. Subsidiaries and the Mexican Subsidiary are collectively, the "Subsidiary Borrowers", together with ION Geophysical Corporation are the "Borrowers") — the financial institutions party thereto, as lenders, and PNC Bank, National Association ("PNC"), as agent for the lenders, entered into that certain Third Amendment and Joinder to Revolving Credit and Security Agreement (the "Third Amendment"), amending the Revolving Credit and Security Agreement, dated as of August 22, 2014 (as previously amended by the First Amendment to Revolving Credit and Security Agreement, dated as of August 4, 2015 and the Second Amendment to Revolving Credit and Security Agreement, dated as of April 28, 2016, the "Credit Agreement"). The Credit Agreement, as amended by the First Amendment, the Second Amendment and the Third Amendment is herein called the "Credit Facility".

The Credit Facility is available to provide for the Borrowers' general corporate needs, including working capital requirements, capital expenditures, surety deposits and acquisition financing.

The Third Amendment amended the Credit Agreement to, among other things:

- extend the maturity date of the Credit Facility by approximately four years (from August 22, 2019 to August 16, 2023), subject to the Company's retirement or extension of the maturity date of its Second Lien Notes, as defined below, which mature on December 15, 2021;
- increase the maximum revolver amount by \$10.0 million (from \$40.0 million to \$50.0 million);
- increase the borrowing base percentage of the net orderly liquidation value as it relates to the multi-client data library (not to exceed \$28.5 million, up from the previous maximum of \$15.0 million for the multi-client data library component);
- include the eligible billed receivables of the Mexican Subsidiary up to a maximum of \$5.0 million in the borrowing base calculation and joins the Mexican Subsidiary as a borrower thereunder (with a maximum exposure of \$5.0 million) and require the equity and assets of the Mexican Subsidiary to be pledged to secure obligations under the facility;
- modify the interest rate such that the maximum interest rate remains consistent with the fixed interest rate prior to the Third Amendment (that is, 3.00% per annum for domestic rate loans and 4.00% per annum for LIBOR rate loans), but now lowers

the range down to a minimum interest rate of 2.00% for domestic rate loans and 3.00% for LIBOR rate loans based on a leverage ratio for the preceding four-quarter period;

- decrease the minimum excess borrowing availability threshold which (if the Borrowers have minimum excess borrowing availability below any such threshold) triggers the agent's right to exercise dominion over cash and deposit accounts; and
- modify the trigger required to test for compliance with the fixed charges coverage ratio, which is further described below.

The maximum amount under the Credit Facility is the lesser of \$50.0 million or a monthly borrowing base. The borrowing base under the Credit Facility will increase or decrease monthly using a formula based on certain eligible receivables, eligible inventory and other amounts, including a percentage of the net orderly liquidation value of the Borrowers' multi-client library. At March 31, 2020, there was \$27.0 million outstanding indebtedness under the Credit Facility and the undrawn remaining borrowing base capacity was \$11.1 million.

The obligations of Borrowers under the Credit Facility are secured by a first-priority security interest in 100% of the stock of the Subsidiary Borrowers and 65% of the equity interest in ION International Holdings L.P., and by substantially all other assets of the Borrowers. However, the first-priority security interest in the other assets of the Mexican Subsidiary is capped to a maximum exposure of \$5.0 million.

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

The Credit Facility requires that the Borrowers maintain a minimum fixed charge coverage ratio of 1.1 to 1.0 as of the end of each fiscal quarter during the existence of a covenant testing trigger event. The fixed charge coverage ratio is defined as the ratio of (i) ION Geophysical Corporation's earnings before interest, taxes, depreciation and amortization ("EBITDA"), minus unfunded capital expenditures made during the relevant period, minus distributions (including tax distributions) and dividends made during the relevant period, minus cash taxes paid during the relevant period, to (ii) certain debt payments made during the relevant period. A covenant testing trigger event occurs upon (a) the occurrence and continuance of an event of default under the Credit Facility or (b) by a two-step process based on (i) a minimum excess borrowing availability threshold (excess borrowing availability less than \$6.25 million for five consecutive days or \$5.0 million on any given day), and (ii) the Borrowers' unencumbered cash maintained in a PNC deposit account is less than the Borrowers' then outstanding obligations.

At March 31, 2020, the Company was in compliance with all of the covenants under the Credit Facility.

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

Senior Secured Notes

ION Geophysical Corporation's 9.125% Senior Secured Second Priority Notes due December 2021 (the "Second Lien Notes") are senior secured second-priority obligations guaranteed by the Material U.S. Subsidiaries and the Mexican Subsidiary (each as defined above and herein below, with the reference to the Second Lien Notes, the "Guarantors"). Interest on the Second Lien Notes is payable semiannually in arrears on June 15 and December 15 of each year during their term, except that the interest payment otherwise payable on June 15, 2021 will be payable on December 15, 2021.

The April 2016 indenture governing the Second Lien Notes contains certain covenants that, among other things, limits or prohibits ION Geophysical Corporation's ability and the ability of its restricted subsidiaries to take certain actions or permit certain conditions to exist during the term of the Second Lien Notes, including among other things, incurring additional indebtedness in excess of permitted indebtedness, creating liens, paying dividends and making other distributions in respect of ION Geophysical Corporation's capital stock, redeeming ION Geophysical Corporation's capital stock, making investments or certain other restricted payments, selling certain kinds of assets, entering into transactions with affiliates, and effecting mergers or consolidations. These and other restrictive covenants contained in the Second Lien Notes Indenture are subject to certain exceptions and qualifications. All of ION Geophysical Corporation's subsidiaries are currently restricted subsidiaries.

At March 31, 2020, the Company was in compliance with all of the covenants under the Second Lien Notes.

On or after December 15, 2019, the Company may, on one or more occasions, redeem all or a part of the Second Lien Notes at the redemption prices set forth below, plus accrued and unpaid interest and special interest, if any, on the Second Lien Notes redeemed during the twelve-month period beginning on December 15th of the years indicated below:

Date	Percentage
2019	105.50%
2020	103.50%
2021	100.00%

(6) Net Loss Per Share

Basic net loss per share is computed by dividing net loss applicable to common shares by the weighted average number of common shares outstanding during the period. Diluted net income per common share is determined based on the assumption that dilutive restricted stock and restricted stock unit awards have vested and outstanding dilutive stock options have been exercised and the aggregate proceeds were used to reacquire common stock using the average price of such common stock for the period. The total number of shares issuable pursuant to outstanding stock options at March 31, 2020 and 2019 of 669,209 and 778,875, respectively, were excluded as their inclusion would have an anti-dilutive effect. The total number of shares issuable pursuant to restricted stock units awards outstanding at March 31, 2020 and 2019 of 903,204 and 988,426, respectively, were excluded as their inclusion would have an anti-dilutive effect.

(7) Income Taxes

The Company maintains a valuation allowance for substantially all of its deferred tax assets. A valuation allowance is established or maintained when it is “more likely than not” that all or a portion of deferred tax assets will not be realized. The Company will continue to record a valuation allowance for the substantial majority of its deferred tax assets until there is sufficient evidence to warrant reversal.

The tax provision for the three months ended March 31, 2020 has been calculated using the Company’s overall estimated annual effective tax rate based on projected 2020 full year results. The Company’s effective tax rates for the three months ended March 31, 2020 and 2019 were 166.2% and (7.1)%, respectively. The Company’s effective tax rates for the three months ended March 31, 2020 and 2019 were negatively impacted by the change in valuation allowance related to U.S. operating losses for which the Company cannot currently recognize a tax benefit. The Company’s effective tax rate for the three months ended March 31, 2020 was also negatively impacted by the establishment of a valuation allowance related to certain foreign operating losses. The Company’s income tax expense for the three months ended March 31, 2020 of \$5.9 million primarily relates to results from the Company’s non-U.S. businesses, including \$2.2 million of valuation allowance. The valuation allowance was established as a result of a change in the expectation of future revenues after entering into the settlement agreement with WesternGeco described in Note 8 “*Litigation*”.

In response to the global pandemic related to COVID-19, the President signed into law the Coronavirus Aid, Relief, and Economic Security Act (the “CARES Act”) on March 27, 2020. The CARES Act provides numerous relief provisions for corporate tax payers, including modification of the utilization limitations on net operating losses, favorable expansions of the deduction for business interest expense under Internal Revenue Code Section 163(j), and the ability to accelerate timing of refundable AMT credits. For the three months ended March 31, 2020, there were no material tax impacts to our condensed consolidated financial statements as it relates to COVID-19 measures. The Company continues to monitor additional guidance issued by the U.S. Treasury Department, the Internal Revenue Services and others.

At March 31, 2020, the Company has approximately \$0.4 million of unrecognized tax benefits and does not expect to recognize significant increases in unrecognized tax benefits during the next twelve-month period. Interest and penalties, if any, related to unrecognized tax benefits are recorded in income tax expense.

At March 31, 2020, the Company’s U.S. federal tax returns for 2016 and subsequent years remain subject to examination by tax authorities. In the Company’s foreign tax jurisdictions, tax returns for 2014 and subsequent years generally remain open to examination.

(8) Litigation

WesternGeco

Settlement

On April 7, 2020, the Company entered into a settlement agreement with WesternGeco that ended the ongoing litigation.

Pursuant to the settlement agreement, WesternGeco granted the Company a license to the underlying patents, lifted the injunction that prevented the Company from manufacturing DigiFIN® in the United States and, on April 13, 2020, the District Court permanently dismissed the pending lawsuit.

In exchange, the Company agreed to pay WesternGeco a settlement based on future revenues from the Company's multi-client data library, consisting of (1) small percentage of 2D multi-client late sales for a ten year period, and (2) the transfer of a majority of the Company's future revenue share relating to the parties' existing joint multi-client reimagining programs offshore Mexico (WesternGeco will receive 90%, instead of 50%, of net revenues from the program, except that the revenue share for the Perdido South portion of the program shall remain 50/50). A copy of the settlement agreement is filed as an exhibit to this Form 10-Q.

Background

In June 2009, WesternGeco L.L.C. ("WesternGeco") filed a lawsuit against the Company in the United States District Court for the Southern District of Texas (the "District Court"). In the lawsuit, styled *WesternGeco L.L.C. v. ION Geophysical Corporation*, WesternGeco alleged that the Company had infringed four of their patents concerning marine seismic surveys.

Trial began in July 2012, and the jury returned a verdict in August 2012. The jury found that the Company infringed the six "claims" contained in four of WesternGeco's patents by supplying the Company's DigiFIN[®] lateral streamer control units from the United States. (In patent law, a "claim" is a technical legal term; an infringer infringes on one or more "claims" of a given patent.)

In May 2014, the District Court entered a Final Judgment against the Company in the amount of \$123.8 million. The Final Judgment also enjoined the Company from supplying DigiFINs or any parts unique to DigiFINs in or from the United States.

As of 2018, the Company had paid WesternGeco the \$25.8 million of the Final Judgment (the portion of the judgment representing reasonable royalty damages and enhanced damages, plus interest).

The balance of the judgment against the Company (\$98.0 million, representing lost profits from surveys performed by the Company's customers outside of the United State, plus interest) was vacated by the United States Court of Appeals for the Federal Circuit, and a new trial ordered, to determine what lost profit damages, if any, WesternGeco was entitled to.

As noted above, the lawsuit has been dismissed in accordance with the parties' settlement agreement.

Other Litigation

In July 2018, the Company prevailed in an arbitration that it initiated against the Indian Directorate General of Hydrocarbons ("DGH") relating to the Company's ability to continue to license data under the Company's IndiaSPAN program. The DGH filed a lawsuit in court in India to vacate the arbitration award; in connection with that lawsuit, the Company was ordered to escrow approximately \$4.5 million in sales proceeds that it had received in respect of sales from the IndiaSPAN program, pending the outcome of the DGH's challenge to the arbitration award. The Company challenged the escrow order, but on December 9, 2019, the Supreme Court of India ordered the Company to comply with it, which would have required the Company to deposit approximately \$4.5 million in escrow in late February 2020. Since then, the Company received a court order deferring the deadline for depositing the required amount in escrow from late February 2020 to late March 2020. The Company prepared a petition to file with the court to request that the March 2020 deadline be extended due to the changes to the Company's business, and to the markets, that have been spurred by the COVID-19 pandemic. The Company was unable to file the application because the courts in India are closed due to the pandemic (other than for emergencies) and are not accepting filings. The Company served a copy of its draft petition on the DGH's counsel and intend to file it as soon as the courts re-open and resume accepting filings. The Company prevailed on the merits in the arbitration and expect to have that award upheld in Indian court, which would result in release of the Company's portion of the escrowed money. The DGH's request to vacate the arbitration award is scheduled to be heard by the court in India on July 15, 2020.

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

(9) Details of Selected Balance Sheet Accounts

Inventories

A summary of inventories follows (in thousands):

	March 31, 2020	December 31, 2019
Raw materials and subassemblies	\$ 18,181	\$ 18,509
Work-in-process	2,340	2,079
Finished goods	5,518	4,932
Less: reserve for excess and obsolete inventories	(13,219)	(13,333)
Inventories, net	<u>\$ 12,820</u>	<u>\$ 12,187</u>

Property, Plant and Equipment

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

	March 31, 2020	December 31, 2019
Buildings	\$ 15,665	\$ 15,486
Machinery and equipment	133,722	133,048
Seismic rental equipment	1,668	1,669
Furniture and fixtures	3,158	3,347
Other	29,955	31,142
Total	<u>184,168</u>	<u>184,692</u>
Less: accumulated depreciation	(134,909)	(134,951)
Less: impairment of long-lived assets	(36,553)	(36,553)
Property, plant and equipment, net	<u>\$ 12,706</u>	<u>\$ 13,188</u>

Total depreciation expense, including amortization of assets recorded under equipment finance leases, for both the three months ended March 31, 2020 and 2019 was \$0.8 million. No impairment charge was recognized during the three months ended March 31, 2020 and 2019.

Multi-Client Data Library

The change in multi-client data library are as follows (in thousands):

	March 31, 2020	December 31, 2019
Gross costs of multi-client data creation	\$ 1,010,909	\$ 1,007,762
Less: accumulated amortization	(824,421)	(816,401)
Less: impairments to multi-client data library	(132,144)	(130,977)
Multi-client data library, net	<u>\$ 54,344</u>	<u>\$ 60,384</u>

Total amortization expense for the three months ended March 31, 2020 and 2019 was \$8.0 million and \$11.1 million, respectively. For the three months ended March 31, 2020, the Company recognized an impairment to multi-client data library of \$1.2 million. No impairment to multi-client data library was recognized during the three months ended March 31, 2019.

Goodwill

	E&P Technology & Services	Optimization Software & Services	Total
Balance at January 1, 2019	\$ 2,943	\$ 19,972	\$ 22,915
Impact of foreign currency translation adjustments	—	670	670
Balance at December 31, 2019	2,943	20,642	23,585
Impairment of goodwill	—	(4,150)	(4,150)
Impact of foreign currency translation adjustments	—	(1,137)	(1,137)
Balance at March 31, 2020	<u>\$ 2,943</u>	<u>\$ 15,355</u>	<u>\$ 18,298</u>

The Company assessed the relevant events and circumstances in evaluating whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount. During the quarter, markets for oil and gas, as well as other commodities and equities, have experienced significant volatility and price declines amid concerns over the economic effects of the COVID-19 pandemic. As a result, the Company's stock price experienced a significant decline during the first quarter of 2020. Based on these facts, the Company performed a goodwill impairment test at March 31, 2020 to determine if it was more likely than not that the fair value of certain reporting units were less than their carrying value.

The Company compared the fair value of each reporting unit against its carrying value. If the carrying value of the reporting unit exceeds the fair value, an impairment loss shall be recognized in an amount equal to that excess. The fair value of each reporting unit at March 31, 2020 was determined using a discounted cash flow model. The Company utilized a discount rate of 19% for both reporting units. The Company used reasonable assumptions based on historical data supplemented by anticipated market conditions and estimated growth rates. However, given the uncertainty in determining the assumptions underlying a discounted cash flow analysis, actual results may differ which could result in additional impairment charge in the future.

The Company recorded an impairment charge of \$4.2 million for the three months ended March 31, 2020 related to its Optimization Software & Services reporting unit, which is included within the Operations Optimization segment. No impairment charge was recognized for the E&P Technology Services reporting unit for the three months ended March 31, 2020.

(10) Stockholder's Equity and Stock-Based Compensation Expense

Stock-Based Compensation

The total number of shares issued or reserved for future issuance under outstanding stock options at March 31, 2020 and 2019 was 669,209 and 778,875, respectively, and the total number of shares of restricted stock and shares reserved for restricted stock units outstanding at March 31, 2020 and 2019 was 903,204 and 988,426, respectively. The total number of stock appreciation rights ("SARs") awards outstanding at March 31, 2020 and 2019 was 937,597 and 1,305,013, respectively. The following table presents a summary of the activity related to stock options, restricted stock, restricted stock unit awards and SARs awards for the three months ended March 31, 2020:

	Stock Options	Restricted Stock and Unit Awards	Stock Appreciation Rights
	Number of Shares		
Outstanding at December 31, 2019	689,209	908,754	954,679
Granted	—	67,500	—
Stock options and SARs exercised/restricted stock and unit awards vested	—	(16,089)	—
Cancelled/forfeited	(20,000)	(56,961)	(17,082)
Outstanding at March 31, 2020	<u>669,209</u>	<u>903,204</u>	<u>937,597</u>

Stock-based compensation expense recognized for the three months ended March 31, 2020 and 2019, totaled \$0.6 million and \$1.3 million, respectively. SARs (credit) expense recognized for the three months ended March 31, 2020 and 2019, totaled \$(1.1) million and \$4.5 million, respectively.

SARs awards are considered liability awards as they are ultimately settled in cash. As such, these amounts are incrementally accrued in the liability section of the condensed consolidated balance sheets over the service period. All of the Company's currently outstanding SARs awards achieve vesting through both a market condition and a service condition. SARs awards that are fully vested under both conditions are measured at intrinsic value (i.e. the difference between the market price on the last day of the quarter and the strike price of the awards times the number of awards vested and outstanding) and marked to market each quarter until settled. SARs awards that are not fully vested are incrementally accrued over the service period and adjusted to their fair value each quarter until settled based on a valuation model. The Company calculated the fair value of each award at March 31, 2020 and December 31, 2019 using a Monte Carlo simulation model. The following assumptions were used:

Risk-free interest rates	1.9%
Expected lives (in years)	5.31
Expected dividend yield	—%
Expected volatility	79%

(11) Lease Obligations

The Company leases offices, processing centers, warehouse spaces and, to a lesser extent, certain equipment. These leases have remaining terms of 1 year to 10 years, some of which have options to extend for up to 10 years and/or options to terminate within 1 year. The options to renew are not recognized as part of the Company's right-of-use assets and operating lease liabilities as the Company is not reasonably certain that it will exercise these options. In January 2020, the Company amended its existing Houston, Texas headquarters lease agreement by extending the lease term to June 30, 2029 and surrendering back to the landlord floors for which the Company had previously vacated.

Total operating lease expense, including short-term lease expense was \$2.5 million and \$3.1 million for the three months ended March 31, 2020 and 2019, respectively.

Future maturities of lease obligations are as follows (in thousands):

	For the year ending March 31,		
	Operating Leases	Finance Leases	Total
2021	\$ 11,260	\$ 1,254	\$ 12,514
2022	9,618	443	10,061
2023	9,538	—	9,538
2024	6,783	—	6,783
2025	8,878	—	8,878
Thereafter	19,906	—	19,906
Total lease payments	65,983	1,697	67,680
Less imputed interest	(15,579)	(102)	(15,681)
Total	\$ 50,404	\$ 1,595	\$ 51,999

The weighted average remaining lease term as of March 31, 2020 and December 31, 2019 was 5.37 years and 4.71 years, respectively. The weighted average discount rate used to determine the operating lease liability at March 31, 2020 and December 31, 2019 was 6.51% and 6.47%, respectively.

	Three Months Ended March 31,	
	2020	2019
Cash paid for amounts included in the measurement of lease liabilities:		
Operating leases	\$ 2,604	\$ 3,156
Equipment finance leases	275	281

Equipment Finance Leases

The Company has entered into equipment finance leases that are due in installments for the purpose of financing the purchase of computer equipment through August 2021. Interest accrues under these leases at a rate of 8.7% per annum, and the leases are collateralized by liens on the computer equipment. The assets are amortized over the lesser of their related lease terms or their estimated useful lives and such charges are reflected within depreciation expense.

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

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

	Three Months Ended March 31,	
	2020	2019
Cash paid during the period for:		
Interest	\$ 160	\$ 198
Income taxes	4,304	3,176

The following table is a reconciliation of cash, cash equivalents, and restricted cash to the condensed consolidated balance sheets:

	March 31,	
	2020	2019
	(In thousands)	
Cash and cash equivalents	\$ 42,663	\$ 38,407
Restricted cash included in prepaid expenses and other current assets	—	398
Restricted cash included in other long-term assets	25	—
Total cash, cash equivalents, and restricted cash shown in statements of cash flows	<u>\$ 42,688</u>	<u>\$ 38,805</u>

(13) Fair Value of Financial Instruments

Authoritative guidance on fair value measurements defines fair value, establishes a framework for measuring fair value and stipulates the related disclosure requirements. The Company follows a three-level hierarchy, under which the fair value hierarchy prioritizes the inputs used to measure fair value. The three-tiered hierarchy is summarized as follows:

Level 1—Quoted prices in active markets for identical assets and liabilities.

Level 2—Other significant observable inputs.

Level 3—Significant unobservable inputs.

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

The carrying amounts of the Company's long-term debt at March 31, 2020 and December 31, 2019 were \$149.7 million and \$123.4 million, respectively, compared to its fair values of \$77.4 million and \$116.6 million at March 31, 2020 and December 31, 2019, respectively. The fair value of the long-term debt was calculated using Level 2 inputs using significant observable data points for similar liabilities where estimated values are determined from observable transactions.

Fair value measurements are applied with respect to non-financial assets and liabilities when possible indicators of impairment exists, which would consist primarily of goodwill, multi-client data library and property, plant and equipment. The fair value of these assets is determined based on valuation techniques using the best information available and may include market comparables and discounted cash flow projections.

(14) Condensed Consolidating Financial Information

The Second Lien Notes were issued by ION Geophysical Corporation and are guaranteed by Guarantors, all of which are wholly owned subsidiaries. The Guarantors have fully and unconditionally guaranteed the payment obligations of ION Geophysical Corporation with respect to the Second Lien Notes. The following condensed consolidating financial information presents the results of operations, financial position and cash flows for:

- ION Geophysical Corporation and the Guarantors (in each case, reflecting investments in subsidiaries utilizing the equity method of accounting).
- All other subsidiaries of ION Geophysical Corporation that are not Guarantors.
- The consolidating adjustments necessary to present ION Geophysical Corporation's results on a consolidated basis.

This condensed consolidating financial information should be read in conjunction with the accompanying condensed consolidated financial statements and footnotes. For additional information pertaining to the Second Lien Notes, See Item 2. “*Management’s Discussion and Analysis of Financial Condition and Results of Operations*” in Part II of this Form 10-Q.

Balance Sheet	March 31, 2020				
	ION Geophysical Corporation	The Guarantors	All Other Subsidiaries	Consolidating Adjustments	Total Consolidated
	(In thousands)				
ASSETS					
Current assets:					
Cash and cash equivalents	\$ 28,602	\$ 54	\$ 14,007	\$ —	\$ 42,663
Accounts receivable, net	8	42,390	8,751	—	51,149
Unbilled receivables	—	5,206	3,150	—	8,356
Inventories, net	—	7,603	5,217	—	12,820
Prepaid expenses and other current assets	3,168	1,319	1,194	—	5,681
Total current assets	31,778	56,572	32,319	—	120,669
Deferred income tax asset	—	7,799	106	—	7,905
Property, plant and equipment, net	1,609	7,711	3,386	—	12,706
Multi-client data library, net	—	46,771	7,573	—	54,344
Investment in subsidiaries	855,539	274,923	—	(1,130,462)	—
Goodwill	—	—	18,298	—	18,298
Intercompany receivables	—	288,207	112,830	(401,037)	—
Right-of-use assets	22,699	14,572	4,895	—	42,166
Other assets	2,381	865	53	—	3,299
Total assets	\$ 914,006	\$ 697,420	\$ 179,460	\$ (1,531,499)	\$ 259,387
LIABILITIES AND (DEFICIT) EQUITY					
Current liabilities:					
Current maturities of long-term debt	\$ 27,486	\$ 1,160	\$ —	\$ —	\$ 28,646
Accounts payable	2,008	40,192	1,627	—	43,827
Accrued expenses	13,536	8,371	7,171	—	29,078
Accrued multi-client data library royalties	—	21,209	215	—	21,424
Deferred revenue	—	3,610	1,272	—	4,882
Current maturities of operating lease liabilities	3,556	5,143	1,174	—	9,873
Total current liabilities	46,586	79,685	11,459	—	137,730
Long-term debt, net of current maturities	118,861	435	—	—	119,296
Operating lease liabilities, net of current maturities	21,900	14,283	4,348	—	40,531
Intercompany payables	766,521	—	—	(766,521)	—
Other long-term liabilities	395	38	—	—	433
Total liabilities	954,263	94,441	15,807	(766,521)	297,990
(Deficit) Equity:					
Common stock	142	290,460	47,776	(338,236)	142
Additional paid-in capital	957,254	180,700	203,909	(384,609)	957,254
Accumulated earnings (deficit)	(976,554)	406,440	20,550	(426,990)	(976,554)
Accumulated other comprehensive income (loss)	(21,099)	4,238	(23,611)	19,373	(21,099)
Due from ION Geophysical Corporation	—	(278,859)	(86,625)	365,484	—
Total stockholders’ (deficit) equity	(40,257)	602,979	161,999	(764,978)	(40,257)
Noncontrolling interest	—	—	1,654	—	1,654
Total (deficit) equity	(40,257)	602,979	163,653	(764,978)	(38,603)
Total liabilities and (deficit) equity	\$ 914,006	\$ 697,420	\$ 179,460	\$ (1,531,499)	\$ 259,387

Balance Sheet	December 31, 2019				
	ION Geophysical Corporation	The Guarantors	All Other Subsidiaries	Consolidating Adjustments	Total Consolidated
	(In thousands)				
ASSETS					
Current assets:					
Cash and cash equivalents	\$ 8,426	\$ 26	\$ 24,613	\$ —	\$ 33,065
Accounts receivable, net	8	19,493	10,047	—	29,548
Unbilled receivables	—	7,314	4,501	—	11,815
Inventories, net	—	6,902	5,285	—	12,187
Prepaid expenses and other current assets	3,292	1,513	1,207	—	6,012
Total current assets	11,726	35,248	45,653	—	92,627
Deferred income tax asset	402	8,417	(85)	—	8,734
Property, plant and equipment, net	786	8,112	4,290	—	13,188
Multi-client data library, net	—	54,479	5,905	—	60,384
Investment in subsidiaries	841,522	279,327	—	(1,120,849)	—
Goodwill	—	—	23,585	—	23,585
Intercompany receivables	—	287,692	99,884	(387,576)	—
Right-of-use assets	11,934	15,802	4,810	—	32,546
Other assets	1,171	905	54	—	2,130
Total assets	\$ 867,541	\$ 689,982	\$ 184,096	\$ (1,508,425)	\$ 233,194
LIABILITIES AND (DEFICIT) EQUITY					
Current liabilities:					
Current maturities of long-term debt	\$ 972	\$ 1,135	\$ —	\$ —	\$ 2,107
Accounts payable	2,259	44,641	2,416	—	49,316
Accrued expenses	9,933	9,982	10,413	—	30,328
Accrued multi-client data library royalties	—	18,616	215	—	18,831
Deferred revenue	—	3,465	1,086	—	4,551
Current maturities of operating lease liabilities	4,429	5,469	1,157	—	11,055
Total current liabilities	17,593	83,308	15,287	—	116,188
Long-term debt, net of current maturities	118,618	734	—	—	119,352
Operating lease liabilities, net of current maturities	11,208	15,346	4,279	—	30,833
Intercompany payables	755,524	—	—	(755,524)	—
Other long-term liabilities	1,418	35	—	—	1,453
Total liabilities	904,361	99,423	19,566	(755,524)	267,826
(Deficit) Equity:					
Common stock	142	290,460	47,776	(338,236)	142
Additional paid-in capital	956,647	180,700	203,909	(384,609)	956,647
Accumulated earnings (deficit)	(974,291)	396,793	18,837	(415,630)	(974,291)
Accumulated other comprehensive income (loss)	(19,318)	4,281	(21,907)	17,626	(19,318)
Due from ION Geophysical Corporation	—	(281,675)	(86,273)	367,948	—
Total stockholders' (deficit) equity	(36,820)	590,559	162,342	(752,901)	(36,820)
Noncontrolling interest	—	—	2,188	—	2,188
Total (deficit) equity	(36,820)	590,559	164,530	(752,901)	(34,632)
Total liabilities and (deficit) equity	\$ 867,541	\$ 689,982	\$ 184,096	\$ (1,508,425)	\$ 233,194

Income Statement	Three Months Ended March 31, 2020				
	ION Geophysical Corporation	The Guarantors	All Other Subsidiaries	Consolidating Adjustments	Total Consolidated
	(In thousands)				
Net revenues	\$ —	\$ 40,422	\$ 15,992	\$ —	\$ 56,414
Cost of sales	—	21,800	5,103	—	26,903
Impairment of multi-client data library	—	1,167	—	—	1,167
Gross profit	—	17,455	10,889	—	28,344
Total operating expenses	8,120	6,980	6,918	—	22,018
Income (loss) from operations	(8,120)	10,475	3,971	—	6,326
Interest expense, net	(3,245)	(38)	62	—	(3,221)
Intercompany interest, net	(190)	(1,927)	2,117	—	—
Equity in earnings of investments	9,628	1,732	—	(11,360)	—
Other income (expense), net	1,385	—	(956)	—	429
Net income (loss) before income taxes	(542)	10,242	5,194	(11,360)	3,534
Income tax expense	1,721	595	3,558	—	5,874
Net income (loss)	(2,263)	9,647	1,636	(11,360)	(2,340)
Net loss attributable to noncontrolling interest	—	—	77	—	77
Net income (loss) attributable to ION	\$ (2,263)	\$ 9,647	\$ 1,713	\$ (11,360)	\$ (2,263)
Comprehensive net income (loss)	\$ (4,044)	\$ 13,754	\$ 4,082	\$ (17,913)	\$ (4,121)
Comprehensive loss attributable to noncontrolling interest	—	—	77	—	77
Comprehensive net income (loss) attributable to ION	\$ (4,044)	\$ 13,754	\$ 4,159	\$ (17,913)	\$ (4,044)

Income Statement	Three Months Ended March 31, 2019				
	ION Geophysical Corporation	The Guarantors	All Other Subsidiaries	Consolidating Adjustments	Total Consolidated
	(In thousands)				
Net revenues	\$ —	\$ 17,613	\$ 19,343	\$ —	\$ 36,956
Cost of sales	—	20,200	6,844	—	27,044
Gross profit (loss)	—	(2,587)	12,499	—	9,912
Total operating expenses	12,839	9,075	3,935	—	25,849
Income (loss) from operations	(12,839)	(11,662)	8,564	—	(15,937)
Interest expense, net	(3,166)	(49)	103	—	(3,112)
Intercompany interest, net	300	4,649	(4,949)	—	—
Equity in earnings (losses) of investments	(5,169)	2,001	—	3,168	—
Other income (expense), net	7	(122)	(677)	—	(792)
Net income (loss) before income taxes	(20,867)	(5,183)	3,041	3,168	(19,841)
Income tax expense (benefit)	493	(1,291)	2,205	—	1,407
Net income (loss)	(21,360)	(3,892)	836	3,168	(21,248)
Net income attributable to noncontrolling interest	—	—	(112)	—	(112)
Net income (loss) attributable to ION	\$ (21,360)	\$ (3,892)	\$ 724	\$ 3,168	\$ (21,360)
Comprehensive net income (loss)	\$ (20,390)	\$ (3,935)	\$ 1,699	\$ 2,348	\$ (20,278)
Comprehensive income attributable to noncontrolling interest	—	—	(112)	—	(112)
Comprehensive net income (loss) attributable to ION	\$ (20,390)	\$ (3,935)	\$ 1,587	\$ 2,348	\$ (20,390)

Statement of Cash Flows	Three Months Ended March 31, 2020			
	ION Geophysical Corporation	The Guarantors	All Other Subsidiaries	Total Consolidated
	(In thousands)			
Cash flows from operating activities:				
Net cash provided by (used in) operating activities	\$ 330	\$ (1,570)	\$ (5,726)	\$ (6,966)
Cash flows from investing activities:				
Cash invested in multi-client data library	—	(5,382)	(4,286)	(9,668)
Purchase of property, plant and equipment	(398)	(98)	—	(496)
Net cash used in investing activities	(398)	(5,480)	(4,286)	(10,164)
Cash flows from financing activities:				
Borrowings under revolving line of credit	27,000	—	—	27,000
Payments on notes payable and long-term debt	(485)	(275)	—	(760)
Intercompany lending	(6,289)	7,353	(1,064)	—
Other financing activities	(10)	—	—	(10)
Net cash provided by (used in) financing activities	20,216	7,078	(1,064)	26,230
Effect of change in foreign currency exchange rates on cash, cash equivalents and restricted cash	—	—	470	470
Net increase (decrease) in cash, cash equivalents and restricted cash	20,148	28	(10,606)	9,570
Cash, cash equivalents and restricted cash at beginning of period	8,479	26	24,613	33,118
Cash, cash equivalents and restricted cash at end of period	\$ 28,627	\$ 54	\$ 14,007	\$ 42,688

The following table is a reconciliation of cash and cash equivalents to total cash, cash equivalents, and restricted cash:

	March 31, 2020			
	ION Geophysical Corporation	The Guarantors	All Other Subsidiaries	Total Consolidated
	(In thousands)			
Cash and cash equivalents	\$ 28,602	\$ 54	\$ 14,007	\$ 42,663
Restricted cash included in other long-term assets	25	—	—	25
Total cash, cash equivalents, and restricted cash shown in statements of cash flows	\$ 28,627	\$ 54	\$ 14,007	\$ 42,688

Statement of Cash Flows	Three Months Ended March 31, 2019			
	ION Geophysical Corporation	The Guarantors	All Other Subsidiaries	Total Consolidated
	(In thousands)			
Cash flows from operating activities:				
Net cash provided by (used in) operating activities	\$ 5,216	\$ (825)	\$ 11,007	\$ 15,398
Cash flows from investing activities:				
Investment in multi-client data library	—	(5,363)	(3,404)	(8,767)
Proceeds from sale (purchase) of property, plant and equipment	(24)	(48)	(735)	(807)
Net cash used in investing activities	(24)	(5,411)	(4,139)	(9,574)
Cash flows from financing activities:				
Payments on notes payable and long-term debt	(434)	(281)	—	(715)
Intercompany lending	(13,511)	6,495	7,016	—
Other financing activities	(239)	—	—	(239)
Net cash provided by (used in) financing activities	(14,184)	6,214	7,016	(954)
Effect of change in foreign currency exchange rates on cash, cash equivalents and restricted cash	—	—	81	81
Net increase (decrease) in cash, cash equivalents and restricted cash	(8,992)	(22)	13,965	4,951
Cash, cash equivalents and restricted cash at beginning of period	14,085	47	19,722	33,854
Cash, cash equivalents and restricted cash at end of period	\$ 5,093	\$ 25	\$ 33,687	\$ 38,805

The following table is a reconciliation of cash and cash equivalents to total cash, cash equivalents, and restricted cash:

	March 31, 2019			
	ION Geophysical Corporation	The Guarantors	All Other Subsidiaries	Total Consolidated
	(In thousands)			
Cash and cash equivalents	\$ 4,695	\$ 25	\$ 33,687	\$ 38,407
Restricted cash included in prepaid expenses and other current assets	398	—	—	398
Total cash, cash equivalents, and restricted cash shown in statement of cash flows	\$ 5,093	\$ 25	\$ 33,687	\$ 38,805

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

Executive Summary

Overview

The COVID-19 pandemic caused the global economy to enter a recessionary period, which may be prolonged and severe, and significantly reduced the availability of capital and liquidity from banks and other providers of credit. The E&P industry is facing the double impact of demand destruction from COVID-19 and market oversupply from increased production, which caused oil and natural gas prices to decline significantly since the start of the year. Brent crude oil prices, which are most relevant to ION's internationally-focused business, dropped 66% during the first quarter from \$66 on January 1, 2020 to \$23 on March 31, 2020. While members of OPEC and other oil producing countries agreed to cut production in April 2020, oil prices nonetheless declined further to record low levels during the month. While commodity prices can be volatile, this sharp decline triggered E&P companies to reduce budgets and will likely curtail demand for some of our products and services. Spending on exploration tends to be among the most discretionary and is expected to bear some of the deepest cuts in percentage terms, although spending reductions in the offshore basins where we operate are projected to be less severe than onshore in the United States.

ION management expects continued portfolio rationalization and high grading as E&P companies seek to find the best return on investment opportunities to meet oil and gas demand in the next decade. Near-term, due to the impact of the COVID-19, project high grading will likely be more acute due to budget cuts. ION had already shifted its portfolio closer to reservoir, where revenue tends to be higher and more consistent. New Ventures data acquisition offshore and Software and related personnel-based offshore services are expected to be most impacted by COVID-19 travel restrictions. While offshore operations will be temporarily impacted by travel restrictions, we believe the demand for digitalization technologies will remain robust. In some cases, ION technology is expected to be more relevant and valuable in the current environment, such as offerings that facilitate remote working.

While the duration and extent of COVID-19 is difficult to predict, ION recorded its highest first quarter revenues since 2014. A number of large multi-client contracts were closed in the first quarter 2020, some of which were delayed from the fourth quarter 2019, even after E&P market dynamics changed. ION worked closely with clients to assess the effect of E&P budget reductions to its business and took decisive action to proactively manage its business. To mitigate the impact of COVID-19 and oil price volatility, management implemented a plan to preserve cash and manage liquidity as follows:

- Scaling down personnel costs and operating expenses by another \$18.0 million during the remaining nine months of 2020, building on the over \$20.0 million (net of severance expense of \$3.1 million) of cuts made in January 2020. These further reductions are primarily through a variety of furlough programs and reduced compensation arrangements across ION's worldwide workforce. ION executives have taken a 20% base salary reduction and a tiered reduction scheme has been cascaded to the rest of the worldwide workforce. ION's board of directors has taken a 20% reduction in directors' fees. In addition, ION has curtailed use of external contractors, decreased travel and event costs and implemented new systems and processes that more efficiently support its business.
- Reducing capital expenditures to an estimated \$20.0 million to \$35.0 million (a portion of which will be pre-funded or underwritten by our customers), down from \$35.0 million to \$50.0 million, to reflect both reduced seismic demand and travel/border restrictions impacting new data acquisition offshore. The majority of capital expenditures relate to investments in multi-client data. This provides flexibility to aggressively reduce cash outflows while shifting to much lower cost reimaging programs.
- Applied for various government assistance programs of which \$6.9 million has been received in April 2020. Receipt of this \$6.9 million allowed us to avoid further staff reductions while supporting our ongoing operations. Additional global government relief of between \$2.0 million to \$7.0 million may be possible.
- Announced the sale of its interest in INOVA Geophysical for \$12.0 million that is expected to close during the second half of the year, subject to regulatory approvals and other closing conditions.
- Entered into a settlement agreement with WesternGeco ending the uncertainty surrounding the decade-long patent litigation. See Note 8 "Litigation" for further details.
- We reviewed our debt covenants and expect that we will remain in compliance for the next twelve months.

In addition, ION is launching new offerings to support remote working, exploring new business models and finding new ways to remotely engage with clients. While the global COVID-19 pandemic and decline in oil and gas prices will likely reduce demand for our products and services in the near-term, management believes the industry's long-term prospects are favorable due to projections about the number of new conventional offshore discoveries required to meet long-term oil demand. Management believes that data and technology that improve decision-making, safety, efficiency or sustainability will continue to be valued, even in the current challenging market.

Our Business

In this Form 10-Q, “ION Geophysical,” “ION,” “the company” (or, “the Company”), “we,” “our,” “ours” and “us” refer to ION Geophysical Corporation and its consolidated subsidiaries, except where the context otherwise requires or as otherwise indicated.

The information contained in this Quarterly Report on Form 10-Q contains references to trademarks, service marks and registered marks of ION and our subsidiaries, as indicated. Except where stated otherwise or unless the context otherwise requires, the terms “DigiFIN” and “VectorSeis” refer to DigiFIN® and VectorSeis® registered marks owned by ION or INOVA Geophysical or their affiliates, and the terms “Marlin,” “Marlin SmartPort,” “Gator,” “SailWing,” and “4Sea” refers to the Marlin™, Marlin SmartPort™, Gator™, SailWing™ and 4Sea™ trademarks and service marks owned by ION.

ION is an innovative, asset light global technology company that delivers powerful data-driven decision-making offerings to offshore energy, ports and defense 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, gain a competitive edge and deliver superior returns.

We have been a leading technology innovator for over 50 years. While the traditional focus of our cutting-edge technology has been on the exploration and production (“E&P”) industry, we are now broadening and diversifying our business into relevant adjacent markets such as offshore logistics, ports and harbors, defense and marine robotics. Our offerings are focused on improving subsurface knowledge to enhance E&P decision-making and improving 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 under the ticker IO. We are headquartered in Houston, Texas with regional offices around the world. We have approximately 470 employees, 41% of whom are in technical roles and 20% have advanced degrees.

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 (“CNPC”). BGP owns the remaining 51% equity interest in INOVA. 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. While we primarily sell to service providers, we began selling existing technology to new customers in E&P, ports and harbors, defense and academic industries.

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.

E&P Technology & Services. Our offerings are designed to help E&P companies improve decision-making, reduce risk and maximize value. Within our E&P Technology and Services segment, there are two synergistic groups: Imaging and Reservoir Services and Ventures.

Our Imaging and Reservoir Services group provides advanced data processing, imaging and reservoir services designed to maximize image quality and subsurface insights, helping E&P companies reduce exploration and production risk, evaluate and develop reservoirs, and increase production. Imaging and Reservoir Services continually develops and applies proprietary processing algorithms via its cutting-edge imaging engine to data owned or licensed by our customers to translate raw data into subsurface images. We continually enhance our novel workflows and invest in leading-edge infrastructure to efficiently deliver the best image quality.

While our Imaging and Reservoir Services group processes and images data for customers on a proprietary basis, most of these resources support our higher potential return multi-client business. The proprietary work we take on is complex, where our advanced technology is valued and where we closely collaborate with our customers to solve their toughest challenges, keeping our toolkit sharp. We maintain approximately 19 petabytes of digital seismic data storage in four global data centers, including a core data center located in Houston. We utilize a globally distributed network of Linux-cluster processing centers in combination with our major hubs in Houston and London to process seismic data using advanced, proprietary algorithms and workflows.

Our Ventures group leverages the world-class geoscience skills of the Imaging and Reservoir Services group to create global digital data assets that are licensed to multiple E&P companies to optimize their investment decisions. Our global data library consists of over 715,000 km of 2D and over 350,000 sq. km of 3D multi-client seismic data in virtually all major offshore petroleum provinces. Ventures provides services to manage multi-client or proprietary surveys, from survey planning and design to data acquisition and management, to final subsurface imaging and reservoir characterization. We focus on the technologically intensive components of the image development process, such as survey planning and design, and data processing and interpretation, while outsourcing asset-intensive components (such as field acquisition) to experienced contractors.

We offer our services to customers on both a proprietary and multi-client (non-exclusive) basis. In both cases, a majority of our survey expenses are generally pre-funded by our customers, limiting our cost exposure. The period during which our multi-client surveys are being designed, acquired or processed is referred to as the “New Venture” phase. Once the New Venture phase is completed, they become part of our Data Library. For proprietary services, the customer has exclusive ownership of the data. For multi-client surveys, we generally retain ownership of or long-term exclusive marketing rights to the data and receive ongoing revenue from subsequent data license sales.

In our E&P Technology & Services segment, new venture revenues decreased compared to the first quarter of 2019. This decrease was more than offset by the significant increase in our data library revenues. We invested \$9.7 million in our multi-client data library during the first quarter of 2020 and we expect investments in our multi-client data library to be in the range of \$20.0 million to \$30.0 million for 2020 (a portion of which will be pre-funded or underwritten by our customers) compared to the \$28.8 million invested in 2019 and down from the \$30.0 million to \$40.0 million initial range for 2020 due to COVID-19.

At March 31, 2020, our E&P Technology & Services segment backlog, which consists of commitments for (i) Imaging and Reservoir Services work and (ii) new venture projects (both multi-client and proprietary) by our Ventures group underwritten by our customers, was \$14.6 million compared to \$18.9 million at December 31, 2019 and \$29.3 million at March 31, 2019. The majority of our backlog relates to our multi-client seismic programs and our proprietary imaging and reservoir services work. We anticipate that most of our backlog will be recognized as revenue over the remainder of 2020.

In the E&P Technology & Services segment, to accelerate our shift in portfolio weighting from 2D to 3D, we restructured our multi-client business development and streamlined our product delivery strategy.

Over the last five years, we have made an effort to diversify our offerings across the E&P life cycle and move closer to the reservoir, where capital investment tends to be higher and more consistent. Historically, our data library was largely 2D exploration focused. We had not materially participated in 3D multi-client projects. As a result, our 3D revenues and data volumes only accounted for 3% of the market, giving us substantial upside growth potential. In 2019, we grew our 3D multi-client data library 56% to 350,000 sq. km. through cost effective, seamless reimaging of existing data. 37% of our 2019 revenue was from 3D multi-client sales, an offering that barely registered just four years ago. Our successful foray into 3D reimaging has given us credibility and experience in the 3D market segment, creating a pipeline of opportunities for new 3D towed streamer and/or seabed programs we have not seen prior. We also completed development of enabling technologies like our Enhanced Frequency Source and 4Sea ocean bottom platform to further increase the likelihood of our participation success in new 3D multi-client programs.

Operations Optimization. Our Operations Optimization segment develops mission-critical subscription offerings and provides engineering services that enable operational control and optimization offshore. Our advanced systems improve situational awareness, communication and risk management to enable rapid and informed decisions in challenging offshore environments. Our industry-leading mission management, navigation, communications and sensing technologies enable the operations of modern 3D operations.

This segment is comprised of our Optimization Software & Services and Devices offerings. While we primarily sell to oil and gas service providers, we began selling existing technology to new customers in E&P, ports and harbors, defense and academic industries. Service providers rely on our industry-leading marine imaging systems and services to acquire the highest quality data - safely and efficiently - in both towed streamer and seabed operations. Our integrated technology platforms combined with advanced prediction tools enable safer, more efficient surveys.

We also leverage our core competencies to develop custom solutions. Our capabilities include data management, navigation, software development, acoustics, sensing, telemetry, fluid dynamics, positioning and control devices and electrical and mechanical engineering expertise.

Our Optimization Software & Services group provides survey design, command and control software systems and related services for marine towed streamer and seabed operations. Our software business commands recurring, premium subscription revenues. We are market leaders in our core business and adapted our platform to more broadly optimize operations. Our software offerings leverage a leading data integration platform to control and optimize operations. Engineering services experts deliver in-field optimization services, equipment maintenance and training to maximize value from our offerings.

Our Devices group develops intelligent equipment controlled by our software to optimize operations. Our Devices group develops, manufactures and repairs marine towed streamer and seabed data acquisition technology, sensors and compasses which have been deployed in marine robotics, defense, E&P and other commercial applications.

Our Operations Optimization revenues were consistent compared to the first quarter of 2019.

It is our view that technologies that provide a competitive advantage through improved imaging, lower costs, higher productivity, or enhanced safety will continue to be valued in our marketplace. We believe that our newest technologies, such as Marlin and 4Sea, will continue to attract customer interest because these technologies are designed to deliver those desirable attributes.

INOVA Geophysical. INOVA manufactures land acquisition systems, including the G3i HD, Hawk and Quantum recording platforms, land source products, including the AHV-IV series, UNIVIB®, and UNIVIB 2 vibroseis vehicles, and source controllers and multicomponent sensors, including the VectorSeis digital 3C receivers. We wrote our investment in INOVA down to zero in 2014.

In March 2020, we announced that we had entered into an agreement to sell our 49% ownership interest in INOVA for a total consideration of \$12.0 million. The transaction is expected to close in the second half of the year, subject to regulatory approvals and other closing conditions.

WesternGeco Litigation Settlement

On April 7, 2020, we entered into a settlement agreement with WesternGeco that ended the ongoing litigation.

Pursuant to the settlement agreement, WesternGeco granted us a license to the underlying patents, lifted the injunction that prevented us from manufacturing DigiFIN in the United States and, on April 13, 2020, the District Court permanently dismissed the pending lawsuit.

In exchange, we agreed to pay WesternGeco a settlement based on future revenues from our multi-client data library, consisting of 1) small percentage of 2-D multi-client late sales for a ten-year period, and 2) the transfer of a majority of our revenue share relating to the parties' existing joint multi-client reimagining programs offshore Mexico. (WesternGeco will receive 90%, instead of 50%, of Net Revenues from the program, except that the revenue share for the Perdido South portion of the program shall remain 50/50). A copy of the settlement agreement is filed as an exhibit to this Form 10-Q.

See Note 8 "Litigation" of Footnotes to Unaudited Condensed Financial Statements" and Part II - Item 1. "Legal Proceedings" for further details.

Key Financial Metrics

The table below provides an overview of key financial metrics for our company as a whole and our two business segments for the three months ended March 31, 2020, compared to the same period of 2019.

	Three Months Ended March 31,	
	2020	2019
(in thousands, except share data)		
Net revenues:		
E&P Technology & Services:		
New Venture	\$ 1,441	\$ 13,471
Data Library	40,131	9,948
Total multi-client revenues	41,572	23,419
Imaging and Reservoir Services	4,942	3,684
Total	46,514	27,103
Operations Optimization:		
Optimization Software & Services	4,427	5,033
Devices	5,473	4,820
Total	9,900	9,853
Total net revenues	\$ 56,414	\$ 36,956

	Three Months Ended March 31,	
	2020	2019
Gross profit (loss):		
E&P Technology & Services	\$ 23,730 ^(a)	\$ 5,440
Operations Optimization	4,614	4,516
Segment gross profit	28,344	9,956
Other	—	(44)
Total gross profit	<u>\$ 28,344</u>	<u>\$ 9,912</u>
Gross margin:		
E&P Technology & Services	51 %	20 %
Operations Optimization	47 %	46 %
Total gross margin	<u>50 %</u>	<u>27 %</u>
Income (loss) from operations:		
E&P Technology & Services	\$ 17,952 ^(a)	\$ (1,615)
Operations Optimization	(3,259) ^(b)	170
Support and other	(8,367)	(14,492)
Income (loss) from operations	<u>\$ 6,326</u>	<u>\$ (15,937)</u>
Operating margin:		
E&P Technology & Services	39 %	(6)%
Operations Optimization	(33)%	2 %
Support and other	(15)%	(39)%
Total operating margin	<u>11 %</u>	<u>(43)%</u>
Net loss attributable to ION	\$ (2,263)	\$ (21,360)
Special items:	6,975 ^(c)	4,460 ^(d)
Net income (loss) attributable to ION, as adjusted	<u>\$ 4,712</u>	<u>\$ (16,900)</u>
Net loss per share:		
Basic	\$ (0.16)	\$ (1.52)
Diluted	\$ (0.16)	\$ (1.52)
Net income (loss) per share as adjusted:		
Basic	\$ 0.33	\$ (1.20)
Diluted	\$ 0.33	\$ (1.20)
Weighted average number of common shares outstanding:		
Basic	14,230	14,033
Diluted	14,230	14,033

^(a) Includes impairment of multi-client data library of \$1.2 million for the three months ended March 31, 2020.

^(b) Includes impairment of goodwill of \$4.2 million for the three months ended March 31, 2020.

^(c) Represents impairment of goodwill of \$4.2 million, severance expense of \$3.1 million, impairment of multi-client data library of \$1.2 million and related income tax benefit of \$0.4 million, partially offset by stock appreciation right awards credit of \$1.1 million.

^(d) Represents stock appreciation right awards expense in the first quarter of 2019.

We intend that the following discussion of our financial condition and results of operations will provide information that will assist in understanding our condensed consolidated financial statements, the changes in certain key items in those financial statements from period to period, and the primary factors that accounted for those changes. The financial results are reported in accordance with Generally Accepted Accounting Principles (“GAAP”). However, management believes that certain non-GAAP performance measures may provide users of this financial information, additional meaningful comparisons between current results and results in prior operating periods. One such non-GAAP financial measure is Net income (loss) attributable to ION as adjusted or adjusted net income (loss), which excludes certain charges or amounts. This adjusted net income (loss) amount is not a measure of financial performance under GAAP. Accordingly, it should not be considered as a substitute for income (loss) from operations, net income (loss) or other income data prepared in accordance with GAAP.

For a discussion of factors that could impact our future operating results and financial condition, see (i) Item 1A. “Risk Factors” in our Annual Report on Form 10-K for the year ended December 31, 2019, and (ii) Item 1A. “Risk Factors” in Part II of this Form 10-Q.

Results of Operations

Three Months Ended March 31, 2020 Compared to Three Months Ended March 31, 2019

Our consolidated net revenues of \$56.4 million for the three months ended March 31, 2020 (the “Current Quarter”) increased by \$19.5 million, or 53%, compared to consolidated net revenues of \$37.0 million for the three months ended March 31, 2019 (the “Comparable Quarter”). Our total gross margin was 50% in the Current Quarter, as compared to 27% in the Comparable Quarter. For the Current Quarter, our income from operations was \$6.3 million, compared to a loss of \$15.9 million for the Comparable Quarter.

Net loss for the Current Quarter was \$2.3 million, or \$0.16 loss per share, compared to \$21.4 million, or \$1.52 loss per share, for the Comparable Quarter. Adjusted net income for the Current Quarter was \$4.7 million, or \$0.33 per share, compared to an adjusted net loss of \$16.9 million, or \$1.20 loss per share for the Comparable Quarter.

Net Revenues, Gross Profits and Gross Margins

E&P Technology & Services — Net revenues for the Current Quarter increased by \$19.4 million, or 72%, to \$46.5 million, compared to \$27.1 million for the Comparable Quarter. Within the E&P Technology & Services segment, total multi-client revenues were \$41.6 million, an increase of 78%. This increase was driven by increased sales of global 2D data library, partly offset by a reduction in new venture revenues. Imaging and Reservoir Services revenues were \$4.9 million, a \$1.3 million increase compared to the Comparable Quarter resulting from working through existing backlog. The Current Quarter reflects a gross profit of \$23.7 million, representing a 51% gross margin, compared to a gross profit of \$5.4 million, or 20% gross margin, in the Comparable Quarter. These improvements in gross profit and margin were due to an increase in our Data Library revenues.

Operations Optimization — Total net revenues for the Current Quarter are consistent with the Comparable Quarter. Optimization Software & Services net revenues for the Current Quarter decreased by \$0.6 million, or 12% to \$4.4 million, compared to \$5.0 million for the Comparable Quarter is due to reduced command and control hardware sales, and to a lesser extent, COVID-19 reduced seismic activity and associated services demand. Devices net revenues for the Current Quarter increased by \$0.7 million, or 14%, to \$5.5 million, compared to \$4.8 million for the Comparable Quarter primarily due to an increase in sales of towed streamer equipment spares and repairs. The Current Quarter reflects a gross profit of \$4.6 million, representing a 47% gross margin compared to a gross profit of \$4.5 million, representing a 46% gross margin for the Comparable Quarter.

Operating Expenses

Research, Development and Engineering — Research, development and engineering expense were \$4.0 million for the Current Quarter, a decrease of \$1.4 million, or 25% compared to \$5.4 million for the Comparable Quarter primarily due to the cost cutting initiative implemented during the quarter.

Marketing and Sales — Marketing and sales expense were \$4.9 million for the Current Quarter, a decrease of \$0.9 million, or 16% compared to \$5.8 million for the Comparable Quarter primarily due to the cost cutting initiative implemented during the quarter.

General, Administrative and Other Operating Expenses — General, administrative and other operating expenses were \$9.0 million for the Current Quarter, a decrease of \$5.7 million, or 39% compared to \$14.7 million for the Comparable Quarter primarily due to the cost cutting initiative implemented during the quarter as well as decrease in stock appreciation rights expense partly offset by an increase in severance expense.

Other Items

Interest Expense, Net — Interest expense, net, was \$3.2 million for the Current Quarter compared to \$3.1 million for the Comparable Quarter. For additional information, please refer to “*Liquidity and Capital Resources — Sources of Capital*” below.

Income Tax Expense — Income tax expense for the Current Quarter was \$5.9 million compared to \$1.4 million for the Comparable Quarter. Our effective tax rates for the Current Quarter and Comparable Quarter were 166.2% and (7.1)%, respectively. The income tax expense for the Current Quarter and Comparable Quarter primarily relates to results generated by our non-U.S. businesses. The income tax expense for the Current Quarter includes \$2.2 million of valuation allowance related to our non-U.S. businesses. Our effective tax rates for the Current Quarter and Comparable Quarter were negatively impacted by the change in valuation allowances related to U.S and certain foreign operating losses. See further discussion of establishment of the deferred tax valuation allowance at Note 7 “*Income Taxes*” of *Footnotes to Condensed Consolidated Financial Statements*.

Liquidity and Capital Resources

Sources of Capital

As of March 31, 2020, we had total liquidity of \$53.8 million, consisting of \$42.7 million of cash on hand and \$11.1 million of remaining borrowing capacity under our Credit Facility. In response to the market uncertainty resulting from the COVID-19 pandemic combined with weaker oil and gas prices, in March we drew \$27.0 million under our Credit Facility that remains outstanding and in our cash balances. Our cash requirements include working capital requirements and cash required for our debt service payments, multi-client seismic data acquisition activities and capital expenditures. As of March 31, 2020, we had negative working capital of \$17.0 million compared to \$23.6 million as of December 31, 2019. Working capital requirements are primarily driven by our investment in our multi-client data library (\$9.7 million in the Current Quarter and \$20.0 million to \$30.0 million expected, for the full year, a portion of which will be pre-funded or underwritten by our customers) and royalty payments for multi-client sales. Whether planned expenditures will actually be spent in 2020 depends on industry conditions, project approvals and schedules, and careful monitoring of our levels of liquidity. Also, our headcount has traditionally been a significant driver of our working capital needs. Our headcount decreased to 470 employees as of March 31, 2020 from 520 employees as of December 31, 2019 resulting from our cost reduction initiative in January 2020. As a significant portion of our business is involved in the planning, processing and interpretation of seismic data services, one of our largest investments is in our employees, which requires cash expenditures for their salaries, bonuses, payroll taxes and related compensation expenses, including stock appreciation awards, typically in advance of related revenue billings and collections.

Our working capital requirements may change from time to time depending upon many factors, including our operating results and adjustments in our operating plan in response to industry conditions, competition and unexpected events. In recent years, our primary sources of funds have been cash flows generated from operations, existing cash balances, debt and equity issuances and borrowings under our Credit Facility.

Revolving Credit Facility

On August 16, 2018, we and our material U.S. subsidiaries — GX Technology Corporation, ION Exploration Products (U.S.A), Inc. and I/O Marine Systems, Inc. (the “Material U.S. Subsidiaries”) — along with GX Geoscience Corporation, S. de R.L. de C.V., a limited liability company (Sociedad de Responsabilidad Limitada de Capital Variable) organized under the laws of Mexico, and a subsidiary of the Company (the “Mexican Subsidiary”) (the Material U.S. Subsidiaries and the Mexican Subsidiary are collectively, the “Subsidiary Borrowers”, together with ION Geophysical Corporation are the “Borrowers”) — the financial institutions party thereto, as lenders, and PNC Bank, National Association (“PNC”), as agent for the lenders, entered into that certain Third Amendment and Joinder to Revolving Credit and Security Agreement (the “Third Amendment”), amending the Revolving Credit and Security Agreement, dated as of August 22, 2014 (as previously amended by the First Amendment to Revolving Credit and Security Agreement, dated as of August 4, 2015 and the Second Amendment to Revolving Credit and Security Agreement, dated as of April 28, 2016, the “Credit Agreement”). The Credit Agreement, as amended by the First Amendment, the Second Amendment and the Third Amendment is herein called the “Credit Facility”). The Third Amendment amended the Credit Agreement to, among other things:

- extend the maturity date of the Credit Facility by approximately four years (from August 22, 2019 to August 16, 2023), subject to our retirement or extension of the maturity date of our Second Lien Notes, as defined below, which mature on December 15, 2021;
- increase the maximum revolver amount by \$10.0 million (from \$40.0 million to \$50.0 million);
- increase the borrowing base percentage of the net orderly liquidation value as it relates to the multi-client data library (not to exceed \$28.5 million, up from the previous maximum of \$15.0 million for the multi-client data library component);
- include the eligible billed receivables of the Mexican Subsidiary up to a maximum of \$5.0 million in the borrowing base calculation and joins the Mexican Subsidiary as a borrower thereunder (with a maximum exposure of \$5.0 million) and require the equity and assets of the Mexican Subsidiary to be pledged to secure obligations under the facility;
- modify the interest rate such that the maximum interest rate remains consistent with the fixed interest rate prior to the Third Amendment (that is, 3.00% per annum for domestic rate loans and 4.00% per annum for LIBOR rate loans), but now lowers the range down to a minimum interest rate of 2.00% for domestic rate loans and 3.00% for LIBOR rate loans based on a leverage ratio for the preceding four-quarter period;
- decrease the minimum excess borrowing availability threshold which (if the Borrowers have minimum excess borrowing availability below any such threshold) triggers the agent’s right to exercise dominion over cash and deposit accounts; and
- modify the trigger required to test for compliance with the fixed charges coverage ratio.

The maximum amount under the Credit Facility is the lesser of \$50.0 million or a monthly borrowing base. The borrowing base under the Credit Facility will increase or decrease monthly using a formula based on certain eligible

receivables, eligible inventory and other amounts, including a percentage of the net orderly liquidation value of the Borrowers' multi-client data library. As of March 31, 2020, there was \$27.0 million outstanding indebtedness under the Credit Facility and the undrawn remaining borrowing base capacity was \$11.1 million. The maturity of the Credit Facility will accelerate to October 31, 2021 if we are unable to repay or extend the maturity of the Second Lien Notes.

The Credit Facility requires us to maintain compliance with various covenants. At March 31, 2020, we were in compliance with all of the covenants under the Credit Facility. For further information regarding our Credit Facility, see above Note 5 "Long-term Debt" of *Footnotes to Condensed Consolidated Financial Statements*.

Senior Secured Notes

As of March 31, 2020, ION Geophysical Corporation's 9.125% Senior Secured Second Priority Notes due December 2021 (the "Second Lien Notes") had an outstanding aggregate principal amount of \$120.6 million and are senior secured second-priority obligations guaranteed by the Material U.S. Subsidiaries and the Mexican Subsidiary. Interest on the Second Lien Notes is payable semiannually in arrears on June 15 and December 15 of each year during their term, except that the interest payment otherwise payable on June 15, 2021 will be payable on December 15, 2021.

The April 2016 indenture governing the Second Lien Notes contains certain covenants that, among other things, limits or prohibits our ability and the ability of our restricted subsidiaries to take certain actions or permit certain conditions to exist during the term of the Second Lien Notes, including among other things, incurring additional indebtedness in excess of permitted indebtedness, creating liens, paying dividends and making other distributions in respect of our capital stock, redeeming our capital stock, making investments or certain other restricted payments, selling certain kinds of assets, entering into transactions with affiliates, and effecting mergers or consolidations. These and other restrictive covenants contained in the Second Lien Notes Indenture are subject to certain exceptions and qualifications. All of our subsidiaries are currently restricted subsidiaries.

At March 31, 2020, we were in compliance with all of the covenants under the Second Lien Notes.

On or after December 15, 2019, we may, on one or more occasions, redeem all or a part of the Second Lien Notes at the redemption prices set forth below, plus accrued and unpaid interest and special interest, if any, on the Second Lien Notes redeemed during the twelve-month period beginning on December 15th of the years indicated below:

Date	Percentage
2019	105.50%
2020	103.50%
2021	100.00%

Meeting our Liquidity Requirements

At March 31, 2020, our total outstanding indebtedness (including equipment finance leases) was approximately \$147.9 million, consisting primarily of approximately \$120.6 million outstanding Second Lien Notes, \$1.6 million of equipment finance leases and other short-term debt, partially offset by \$1.7 million of debt issuance costs. In response to the market uncertainty resulting from COVID-19 pandemic combined with weaker oil and gas prices, in March we drew \$27.0 million under our Credit Facility which remains outstanding and in our cash balances.

For the Current Quarter, total capital expenditures, including the investments in our multi-client data library, were \$10.2 million. We expect that our total capital expenditures, primarily related to investments in our multi-client data library, this year to be in the range of \$20.0 million to \$35.0 million, a portion of which will be pre-funded or underwritten by our customers. Whether planned expenditures will actually be spent in 2020 depends on industry conditions, project approvals and schedules, and careful monitoring of our levels of liquidity.

While the duration and extent of COVID-19 is difficult to predict, we recorded its highest first quarter revenues since 2014. A number of large multi-client contracts were closed in the first quarter 2020, some of which were delayed from the fourth quarter 2019, even after E&P market dynamics changed. ION worked closely with clients to assess the effect of E&P budget reductions to our business and took decisive action to proactively manage its business. To mitigate the impact of COVID-19 and oil price volatility, management implemented a plan to preserve cash and manage liquidity as follows:

- Scaling down personnel costs and operating expenses by another \$18.0 million during the remaining nine months of 2020, building on the over \$20.0 million (net of severance expense of \$3.1 million) of cuts made in January 2020. These further reductions are primarily through a variety of furlough programs and reduced compensation arrangements across ION's worldwide workforce. ION executives have taken a 20% base salary reduction and a tiered reduction scheme has been cascaded to the rest of the worldwide workforce. ION's board of directors has taken a 20%

reduction in directors' fees. In addition, ION has curtailed use of external contractors, decreased travel and event costs and implemented new systems and processes that more efficiently support its business.

- Reducing capital expenditures to an estimated \$20.0 million to \$35.0 million (a portion of which will be pre-funded or underwritten by our customers), down from \$35.0 million to \$50.0 million, to reflect both reduced seismic demand and travel/border restrictions impacting new data acquisition offshore. The majority of capital expenditures relate to investments in multi-client data. This provides flexibility to aggressively reduce cash outflows while shifting to much lower cost reimagining programs.
- Applied for various government assistance programs of which \$6.9 million has been received in April 2020. Receipt of this \$6.9 million allowed us to avoid further staff reductions while supporting our ongoing operations. Additional global government relief of between \$2.0 million to \$7.0 million may be possible.
- Announced the sale of its interest in INOVA Geophysical for \$12.0 million that is expected to close during the second half of the year, subject to regulatory approvals and other closing conditions.
- Entered into a settlement agreement with WesternGeco ending the uncertainty surrounding the decade-long patent litigation. See Note 8 "Litigation" for further details.
- In addition, we reviewed our debt covenants and expect that we will remain in compliance for the next twelve months.

We believe that the above plan, which includes the use of government assistance programs, along with our existing cash balance, and the undrawn remaining borrowing capacity under our Credit Facility will be sufficient to meet our anticipated cash needs for at least the next twelve months.

Cash Flow from Operations

In the Current Period, we used \$7.0 million of cash from operating activities compared to cash generated from operating activities of \$15.4 million for the Comparable Period. This was driven primarily by an increase in our accounts receivables related to significantly increased current quarter sales, that a majority are expected to be collected during the second quarter and payments of our payables in the Current Period.

Cash Flow from Investing Activities

Cash used in investing activities was \$10.2 million in the Current Period compared to \$9.6 million for the Comparable Period. The principal uses of cash in our investing activities during the Current Quarter were \$9.7 million invested in our multi-client data library and \$0.5 million for capital expenditures related to property, plant and equipment.

The principal use of cash in our investing activities during the Comparable Quarter were \$8.8 million invested in our multi-client data library and \$0.8 million for capital expenditures related to property, plant and equipment.

Cash Flow from Financing Activities

Net cash provided by financing activities was \$26.2 million in the Current Period, compared to net cash used in financing activities of \$1.0 million for the Comparable Quarter. Cash provided by financing activities was related to \$27.0 million of drawdown on our credit facility partly offset by \$0.8 million of payments of long-term debt, including equipment finance leases in the Current Quarter.

The net cash used in financing activities during the Comparable Quarter was related to \$0.7 million of payments of long-term debt, including equipment finance leases in the Comparable Quarter.

Inflation and Seasonality

Inflation in recent years has not had a material effect on our cost of goods or labor, or the prices for our products or services. Traditionally, our business has been seasonal, with strongest demand often occurring in the second half of our fiscal year.

Critical Accounting Policies and Estimates

Refer to our Annual Report on Form 10-K for the year ended December 31, 2019, for a complete discussion of our significant accounting policies and estimates.

Foreign Sales Risks

The majority of our foreign sales are denominated in U.S. dollars. Product revenues are allocated to geographical locations on the basis of the ultimate destination of the equipment, if known. If the ultimate destination of such equipment is not known, product revenues are allocated to the geographical location of initial shipment. Service revenues, which primarily relate to our E&P Technology & Services segment, are allocated based upon the billing location of the customer. For the Current and Comparable Periods, international sales comprised 44% and 81%, respectively, of total net revenues.

Net revenues by geographic area:	Three Months Ended March 31,	
	2020	2019
	(In thousands)	
North America	\$ 31,810	\$ 7,157
Latin America	9,804	13,531
Asia Pacific	9,288	1,867
Europe	3,810	10,392
Middle East	954	1,359
Africa	591	2,389
Other	157	261
Total	<u>\$ 56,414</u>	<u>\$ 36,956</u>

Credit Risks

For the three months ended March 31, 2020, we had two customers with sales that each exceeded 10% of the Company's consolidated net revenues. For three months ended March 31, 2019, we had one customer with sales that exceeded 10% of the Company's consolidated net revenues.

We routinely evaluate the financial stability and creditworthiness of our customers. At March 31, 2020, we had one customer with balances that accounted for 51% of our total combined accounts receivable and unbilled receivable balances. At March 31, 2019, we had two customers with a combined balance that accounted for 26% of our total combined accounts receivable and unbilled receivable balances.

The loss of these customers or deterioration in our relationship with these customers could have a material adverse effect on our results of operations and financial condition.

Item 3. Quantitative and Qualitative Disclosures about Market Risk

Refer to Item 7A of our Annual Report on Form 10-K for the year ended December 31, 2019 for a discussion regarding our quantitative and qualitative disclosures about market risk. There have been no material changes to those disclosures during the Current Quarter.

Item 4. Controls and Procedures

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

Our management carried out an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures as of March 31, 2020. Based upon that evaluation, our principal executive officer and principal financial officer have concluded that our disclosure controls and procedures were effective as of March 31, 2020.

Changes in Internal Control over Financial Reporting. There was not any change in our internal control over financial reporting that occurred during the three months ended March 31, 2020, which has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II — OTHER INFORMATION

Item 1. Legal Proceedings

WesternGeco

Settlement

On April 7, 2020, we entered into a settlement agreement with WesternGeco that ended the ongoing litigation.

Pursuant to the settlement agreement, WesternGeco granted us a license to the underlying patents, lifted the injunction that prevented us from manufacturing DigiFIN in the United States and, on April 13, 2020, the District Court permanently dismissed the pending lawsuit.

In exchange, we agreed to pay WesternGeco a settlement based on future revenues from our multi-client data library, consisting of 1) small percentage of 2-D multi-client late sales for a ten-year period, and 2) the transfer of a majority of our revenue share relating to the parties' existing joint multi-client reimagining programs offshore Mexico. (WesternGeco will receive 90%, instead of 50%, of Net Revenues from the program, except that the revenue share for the Perdido South portion of the program shall remain 50/50). A copy of the settlement agreement is filed as an exhibit to this Form 10-Q.

Background

In June 2009, WesternGeco L.L.C. ("WesternGeco") filed a lawsuit against us in the United States District Court for the Southern District of Texas (the "District Court"). In the lawsuit, styled *WesternGeco L.L.C. v. ION Geophysical Corporation*, WesternGeco alleged that we infringed four of their patents concerning marine seismic surveys.

Trial began in July 2012, and the jury returned a verdict in August 2012. The jury found that we infringed the six "claims" contained in four of WesternGeco's patents by supplying our DigiFIN lateral streamer control units from the United States. (In patent law, a "claim" is a technical legal term; an infringer infringes on one or more "claims" of a given patent.)

In May 2014, the District Court entered a Final Judgment against the Company in the amount of \$123.8 million. The Final Judgment also enjoined the Company from supplying DigiFINs or any parts unique to DigiFINs in or from the United States.

As of 2018, we paid WesternGeco the \$25.8 million of the Final Judgment (the portion of the judgment representing reasonable royalty damages and enhanced damages, plus interest).

The balance of the judgment against us (\$98.0 million, representing lost profits from surveys performed by our customers outside of the United States, plus interest) was vacated by the United States Court of Appeals for the Federal Circuit, and a new trial ordered, to determine what lost profit damages, if any, WesternGeco was entitled to.

As noted above, the lawsuit has been dismissed in accordance with the parties' settlement agreement.

Our assessments disclosed in this Quarterly Report on Form 10-Q or elsewhere are based on currently available information and involve elements of judgment and significant uncertainties. See Note 8 "*Litigation*" of *Notes to Condensed Consolidated Financial Statements*.

Other Litigation

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 our IndiaSPAN program, pending the outcome of the DGH's challenge to the arbitration award. We challenged the escrow order, but on December 9, 2019, the Supreme Court of India ordered us to comply with it which would have required us to deposit approximately \$4.5 million in escrow in late February 2020. Since then, we received a court order deferring the deadline for depositing the required amount in escrow from late February 2020 to late March 2020. We prepared a petition to file with the court to request that the March 2020 deadline be extended due to the changes to our business, and to the markets, that have been spurred by the COVID-19 pandemic (other than for emergencies) and are not accepting filings. We were unable to file the application because the courts in India are closed due to the pandemic. We served a copy of our draft petition on the DGH's counsel and intend to file it as soon as the courts re-open and resume accepting filings. We prevailed on the merits in the arbitration and expect to have that award upheld in Indian court, which would result in release of our portion of the escrowed money. The DGH's request to vacate the arbitration award is scheduled to be heard by the court in India on July 15, 2020.

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

Item 1A. Risk Factors

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

- 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 shareholders 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;
- 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, joint ventures and acquired companies;
- future growth rates for our services and products;
- the degree and rate of future market acceptance of our new services and products;
- expectations regarding E&P companies and seismic contractor end-users purchasing our more technologically-advanced services and products;
- anticipated timing and success of commercialization and capabilities of services and products under development and start-up costs associated with their development, including 4Sea and Marlin SmartPorts;
- future opportunities for new products and projected research and development expenses;
- expected continued compliance with our debt financial covenants;
- expectations regarding realization of deferred tax assets;
- expectations regarding the impact of the U.S. Tax Cuts and Jobs 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; and
- 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.

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. There has been a significant reduction in the demand for oil, and a significant drop in the price of oil. If the reduced demand and reduced prices continue 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 around 95% of our workforce is working from home. The notable exception to this is our manufacturing operations in Louisiana; currently, employees are not restricted by the government from reporting to work in Louisiana, but they are subject to enhanced safety precautions. 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.

Crude oil prices have declined significantly in 2020 and, if oil prices fail to rebound, our operations and financial condition may be materially and adversely affected.

In the first quarter of 2020, crude oil prices fell dramatically, due in part to significantly decreased demand as a result of the COVID-19 pandemic and an increase in global production. While members of OPEC and other oil producing countries agreed to certain production cuts in April 2020, these cuts are not expected to offset near-term demand loss attributable to the COVID-19 pandemic. If crude oil prices fail to rebound for a prolonged period, our operations, financial condition, and cash flows may be materially and adversely affected.

We face a significant debt maturity in December 2021.

Our \$120.6 million aggregate principal amount of Senior Secured Second-Priority Lien notes mature on December 15, 2021. If our cash flows from operations and other capital resources are insufficient to pay off such notes, we may face substantial liquidity problems and may be forced to reduce or delay investments, dispose of material assets or operations, or issue additional debt or equity. We may not be able to take such actions, if necessary, on commercially reasonable terms or at all. Our inability to generate sufficient cash flows to satisfy our debt obligations, or to refinance our indebtedness on commercially reasonable terms or at all, would materially and adversely affect our financial position and results or operations.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

(c) Purchase of Equity Securities by the Issuer and Affiliated Purchasers

During the three months ended March 31, 2020, in connection with the vesting of (or lapse of restrictions on) shares of our restricted stock held by certain employees, we acquired shares of our common stock in satisfaction of tax withholding obligations that were incurred on the vesting date. The date of acquisition, number of shares and average effective acquisition price per share were as follows:

Period	(a) Total Number of Shares Acquired	(b) Average Price Paid Per Share	(c) Total Number of Shares Purchased as Part of Publicly Announced Plans or Program	(d) Maximum Number (or Approximate Dollar Value) of Shares That May Yet Be Purchased Under the Plans or Program
January 1, 2020 to January 31, 2020	—	\$ —	Not applicable	Not applicable
February 1, 2020 to February 29, 2020	—	\$ —	Not applicable	Not applicable
March 1, 2020 to March 31, 2020	750	\$ 3.52	Not applicable	Not applicable
Total	750	\$ 3.52		

Item 5. Other Information

None.

Item 6. Exhibits

- 3.1 [Restated Certificate of Incorporation, as amended, filed on November 3, 2016 as Exhibit 3.1 to the Company's Quarterly Report on Form 10-Q and incorporated by reference.](#)
- 3.2 [Amended and Restated Bylaws of ION Geophysical Corporation filed on September 24, 2007 as Exhibit 3.5 to the Company's Current Report on Form 8-K and incorporated herein by reference.](#)
- 4.1 [Indenture, dated May 13, 2013, among ION Geophysical Corporation, the subsidiary guarantors named therein, Wilmington Trust, National Association, as trustee, and U.S. Bank, National Association, as collateral agent, filed on May 13, 2013 as Exhibit 4.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.](#)
- 4.2 [First Supplemental Indenture, dated as of April 28, 2016, to the Indenture, dated May 13, 2013, among ION Geophysical Corporation, the subsidiary guarantors named therein, Wilmington Savings Fund Society, FSB, as trustee, and U.S. Bank National Association, as collateral agent, filed on April 28, 2016 as Exhibit 4.3 to the Company's Current Report on Form 8-K and incorporated by reference.](#)
- 4.3 [Indenture, dated as of April 28, 2016, among ION Geophysical Corporation, the subsidiary guarantors named therein, Wilmington Savings Fund Society, FSB, as trustee and collateral agent filed on April 28, 2016 as Exhibit 4.1 to the Company's Current Report on Form 8-K and incorporated by reference.](#)
- 4.4 [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 and incorporated by reference.](#)
- 10.1 [ION and WesternGeco Settlement Agreement dated April 7, 2020.*](#)
- 31.1 [Certification of Chief Executive Officer](#)
- 31.2 [Certification of Chief Financial Officer](#)
- 32.1 [Certification of Chief Executive Officer](#)
- 32.2 [Certification of Chief Financial Officer](#)
- 101 The following materials are formatted in Extensible Business Reporting Language (XBRL): (i) Condensed Consolidated Balance Sheets as of March 31, 2020 and December 31, 2019, (ii) Condensed Consolidated Statements of Operations for the three months ended March 31, 2020 and 2019, (iii) Condensed Consolidated Statements of Comprehensive Loss for the three months ended March 31, 2020 and 2019, (iv) Condensed Consolidated Statements of Cash Flows for the three months ended March 31, 2020 and 2019, (v) Condensed Consolidated Statements of Stockholders' Deficit for the three months ended March 31, 2020 and 2019 and (vi) Footnotes to Condensed Consolidated Financial Statements.

* Certain portions of this exhibit have been omitted pursuant to Item 601(b)(10) of Regulation S-K.

SETTLEMENT AGREEMENT

This SETTLEMENT AGREEMENT (this “Agreement”) is effective on the date of execution of this Agreement and the Campeche Agreement of Exhibit B (the “Effective Date”), by and between ION Geophysical Corporation, a Delaware corporation (“ION”), on behalf of itself and its Affiliates, and WesternGeco L.L.C., a Delaware corporation (“WesternGeco”), on behalf of itself and its Affiliates. ION and WesternGeco are individually referred to herein as a “Party,” and collectively as the “Parties.”

WHEREAS, WesternGeco and ION are involved in patent litigation within the United States, specifically, they are parties to *WesternGeco LLC v. ION Geophysical Corporation*, 09-CV- 1827 (S.D.T.X.) (the “Action”), which involves certain U.S. Patents;

WHEREAS, WesternGeco was awarded in the Action, and ION has paid to date \$25,832,050.74 in damages related to the Action (the “Paid Damages”);

WHEREAS, as part of the Action ION was enjoined (the “Injunction”) from supplying in or from the United States DigiFIN (as defined in the Injunction) or any parts unique to DigiFIN;

WHEREAS, ION is involved in Opposition Proceedings to EP1847851, EP1850151, and EP1868011 before the European Patent Office, and/or appeals therefrom (collectively, the “Administrative Proceedings”);

NOW, THEREFORE, in consideration of all of the terms and conditions of this Agreement, the Parties agree as follows:

1. DEFINITIONS

As used in this Agreement, the following terms shall have the following meanings:

1.1 “Affiliate” means, as to any Party, any person, firm, trust, partnership, corporation, company or other entity or combination thereof, which directly or indirectly (i) controls the Party, (ii) is controlled by the Party, or (iii) is under common control with the Party. For purposes of this definition, the terms “control” and “controlled” mean ownership of fifty percent (50%) or more, including ownership by trusts with substantially the same beneficial interests, of the voting and equity rights of such person, firm, trust, partnership, corporation, company or other entity or combination thereof, or the power to direct the management of such person, firm, trust, partnership, corporation, company or other entity or combination thereof.

1.2 “Business Day” means a day other than Saturday, Sunday, or a United States federal holiday.

1.3 “Claims” means claims, counterclaims, answers, cross-claims and any judicial, administrative or other proceeding of any kind in any jurisdiction, as well as any and all actions, causes of action, costs, damages, debts, demands, expenses, liabilities, losses, obligations, proceedings, and suits of every kind and nature, liquidated or unliquidated, fixed or contingent,

in law, equity, or otherwise, whether asserted or unasserted, whether presently known or unknown, whether anticipated or unanticipated, and whether direct or derivative, including but not limited to those claims, counterclaims, answers and cross-claims asserted in the Action.

1.4 “Dollar” and “\$” shall mean U.S. Dollar.

1.5 “ION’s Customers” shall mean any purchaser, lessee, assignee, and/or user of ION’s products and/or services, including the ORCA, the DigiFIN, the DigiFIN’s Lateral Controller, or any part or component unique to any of those products.

1.6 “ION Patents” shall mean (a) U.S. Patent No. 6,525,992, and its parents, continuations, and divisionals; (b) any patent or patent application that claims priority to or is a divisional, continuation, reissue, renewal, reexamination, substitution or extension of any patent application identified in (a); (c) any patents issuing on any patent application identified in (a) or (b), including any reissues, renewals, reexaminations, substitutions, or extensions thereof; (d) any claim of a continuation-in-part application or patent (including any reissues, renewals, reexaminations, substitutions or extensions thereof) on its face claims priority to, or is directed specifically to subject matter specifically described in at least one of the patents or patent applications identified in (a), (b), or (c); (e) any foreign counterpart (including PCTs) or any patent or patent application identified in (a), (b), or (c) or of the claims identified in (d); and (f) any supplementary protection certificates, any other patent term extensions and the like of any patents and patent applications identified in (a) through (e).

1.7 “Person” means, without limitation, any individual, firm, corporation, partnership, limited liability company, trust, joint venture, or other entity or organization.

1.8 “Third Party” means a Person that is not a Party and is not an Affiliate of a Party.

1.9 “WesternGeco Patents” shall mean (a) U.S. Patents Nos. 6,691,038, 6,932,017, 7,080,607, 7,162,967 and 7,293,520 collectively, and all parents, continuations, and divisionals;

(b) any patent or patent application that claims priority to or is a divisional, continuation, reissue, renewal, reexamination, substitution or extension of any patent application identified in (a); (c) any patents issuing on any patent application identified in (a) or (b), including any reissues, renewals, reexaminations, substitutions, or extensions thereof; (d) any claim of a continuation- in-part application or patent (including any reissues, renewals, reexaminations, substitutions or extensions thereof) that on its face claims priority to, or is directed specifically to subject matter specifically described in, at least one of the patents or patent applications identified in (a), (b), or (c); (e) any foreign counterpart (including PCTs) or any patent or patent application identified in (a), (b), or (c) or of the claims identified in (d); and (f) any supplementary protection certificates, any other patent term extensions and the like of any patents and patent applications identified in (a) through (e).

2. SETTLEMENT

The Parties have agreed to enter into this Agreement to settle finally the Action and Administrative Proceedings for the following consideration:

2.1 CAMPECHE AGREEMENT MODIFICATIONS

2.1.1 The Campeche Agreements

GX Geoscience Corporation, S. de R.L. de C.V. (a subsidiary of ION) and Dowell Schlumberger de Mexico S.A. de C.V. (a subsidiary of WesternGeco) have entered into a series of agreements related to multiclient projects in the Mexican Gulf of Mexico as listed below (collectively, the “Campeche Agreements”).

[*]

GX Geoscience Corporation, S. de R.L. de C.V. (a subsidiary of ION) and Dowell Schlumberger de Mexico S.A. de C.V. (a subsidiary of WesternGeco) have entered into a an agreement related to a multiclient projects in the Mexican Gulf of Mexico as listed below (collectively, the “Perdido South Agreement”).

A. Amendment No. 6 to the Collaboration and Subcontracting Agreement between GX Geoscience Corporation, S. de R.L. de C.V. (“ION”) and Dowell Schlumberger de Mexico S.A. de C.V.

(“Schlumberger”) dated 30 April 2018;

2.1.2 Modification of the Campeche Agreements

ION shall cause GX Geoscience Corporation S. de R.L. de C.V. and WesternGeco shall cause Dowell Schlumberger de Mexico S.A. de C.V. to enter into the agreement of Exhibit B (the “Campeche Modification Agreement”). The Campeche Modification Agreement shall not affect the rights and responsibilities of the Perdido South Agreement.

2.2 2D MULTICLIENT ROYALTY

2.2.1 ION shall pay to WesternGeco an amount equal to 5% of total revenue of license fees received by ION, excluding partner shares, for the entirety of ION’s current and future 2D multiclient library shelf products (products completed), that are paid to ION pursuant to agreements (or as applicable, supplements to existing agreements) executed by ION and the applicable licensee after the Effective Date, explicitly excluding precommit revenue and including late sale revenue. For the avoidance of doubt, the foregoing expressly excludes revenue of license fees attributable to agreements or supplements that were executed by ION and the applicable licensee before the Effective Date, even if received after the Effective Date. For the avoidance of doubt, “ION’s current and future 2D multiclient library shelf products” are 2D data library products that ION owns and has on the shelf (and, for the purpose of this Section 2.2.1, ION will be considered to “own” any 2D data library product that is owned by a government or state oil company if ION has the exclusive right to license such product).

2.2.2 The royalty rights of Article 2.2.1 shall expire 10 years after the Effective Date of the Settlement Agreement, and shall expressly exclude the revenues from any transaction in which all, or substantially all, of such library is sold or licensed provided that, in the event of a sale of the library, the purchaser of all, or substantially all, of such library shall be subject to the revenue sharing obligations of this Article 2.2. For the avoidance of doubt, the royalty obligation does not apply to any revenue or license fees received by ION more than 10 years after the Effective Date of the Settlement Agreement unless the contract giving rise to the revenue or license fees is executed prior to the date 10 years after the Effective Date of the Settlement Agreement.

2.2.3 WesternGeco shall have no marketing or display rights in relation to ION’s 2D library as contemplated under this Article 2.2.

2.2.4 [*]

[*] WesternGeco shall issue a new invoice as agreed which ION shall then pay within 60 days of receipt.

2.2.5 [*]

2.2.6 [*]

2.3 WESTERNGECO CLOUD-BASED SUBSURFACE EXPLORATION PLATFORM

2.3.1 WesternGeco and ION agree to negotiate in good faith a commercial agreement that shall allow ION to place all or substantially all of its multiclient data onto WesternGeco's GAIA™ Cloud-Based Subsurface Exploration Platform.

3. DISMISSALS, RELEASES, AND NONEXCLUSIVE LICENSE

3.1 Motion to Vacate Injunction and Dismiss Action With Prejudice. Within three (3) Business Days of the Effective Date, the Parties shall cause their counsel to execute and promptly file a joint motion to vacate the Injunction and for dismissal with prejudice of all claims and counterclaims in the Action, with each Party to bear its own fees and costs (substantially in the form of Exhibit A hereto). WesternGeco covenants not to seek to enforce the Injunction and further covenants that it will cause its counsel to take any further acts requested by ION to cause the court to vacate the Injunction and dismiss the Action.

3.2 Withdrawals. Within three (3) Business Days of the Effective Date, ION shall terminate its involvement in and withdraw from the Administrative Proceedings and refrain from any further participation in the Administrative Proceedings.

3.3 ION Release of WesternGeco. ION, on behalf of itself and its Affiliates, fully and forever irrevocably and unconditionally releases, acquits, and discharges WesternGeco, and its Affiliates, predecessors, successors, assigns, directors, employees, and officers, from (a) from all Claims arising out of or in any way related to, in any manner or degree, the Action or the facts raised in the Action, and any infringement of the ION Patents; and (b) any claim or effort to seek any refund or repayment of any amounts already paid by ION to WesternGeco in relation to the Action, including but not limited to the Paid Damages.

3.4 WesternGeco Release of ION. WesternGeco, on behalf of itself and its Affiliates, fully and forever irrevocably and unconditionally releases, acquits, and discharges ION, and its Affiliates, predecessors, successors, assigns, directors, employees, officers, and ION's Customers, from all Claims arising out of or in any way related to, in any manner or degree, the Action or the facts raised in the Action, and any infringement of the WesternGeco Patents, including, for the avoidance of doubt, all Claims for infringement of the WesternGeco Patents relating to ION's making, using, offering to sell, selling, importing, stocking, and/or supplying products and/or services, including but not limited to DigiFIN, the DigiFIN Lateral Controller, and ORCA products and services, and/or inducing and/or contributing to such conduct by ION's Customers or other Persons. ION's Customers are third-party beneficiaries of this release in defense of any future action over the WesternGeco Patents and shall be entitled to enforce the release without joinder of ION as a party, but nothing in this Agreement confers any right to recoupment to ION's customers of previous monies paid by ION's Customers. For the avoidance of doubt, WesternGeco will indemnify ION and its Affiliates (but not any third party) against any Claim by a third party arising out of or relating to any past or future Claim by WesternGeco or its Affiliates, that some action or omission by a third party that involved any product or service provided directly or indirectly by ION or an ION Affiliate infringed any of the WesternGeco Patents. Notwithstanding anything in this Agreement to the contrary, in no instance shall WesternGeco indemnify

ION nor shall ION be entitled to recover from WesternGeco for claims against ION related to any moneys paid by (1) Petroleum Geo-Services, Inc., PGS Geophysical AS, or Multi Klient Invest AS or its Affiliates (“PGS”); (2) Polarcus US Inc. or Polarcus Limited or its Affiliates (“Polarcus”); or (3) Fugro-Geoteam, Inc. or its Affiliates (“Fugro”) to WesternGeco for any past claims brought by WesternGeco against PGS, Polarcus, or Fugro for infringement of any of the WesternGeco Patents.

3.5 Waiver of Right to Assert Unknown Claims. Each Party hereby expressly waives any and all provisions, rights and benefits conferred by § 1542 of the California Civil Code (which provides that “A general release does not extend to claims that the creditor or releasing party does not know or suspect to exist in his or her favor at the time of executing the release and that, if known by him or her, would have materially affected his or her settlement with the debtor or released party”), or by any law or principle of common law that is similar, comparable or equivalent to § 1542 of the California Civil Code, with respect to the matters released in Sections 3.3 and 3.4.

3.6 Paid-up, Nonexclusive License. WesternGeco hereby grants to ION, its Affiliates, and ION’s Customers, and ION hereby accepts, a fully paid-up, royalty-free, irrevocable, nonexclusive license to the WesternGeco Patents, to make, have made, use, have used, distribute, have distributed, sell, have sold, offer for sale, have offered for sale, import, have imported, export, have exported, stock, or otherwise dispose of any product and/or service offered by ION, including, but not limited to DigiFIN, the DigiFIN’s Lateral Controller, and ORCA. ION’s Customers are third-party beneficiaries of this license and shall be entitled to enforce the license without joinder of ION as a party.

4. **TERM**

This Agreement shall become effective as of the Effective Date and shall remain in effect until the later of the expiration of the last to expire of the WesternGeco Patents or until eleven years after the Effective Date (however, the provisions of Article 3 above, and of Sections 5.5, 5.6, 5.8 and 5.9 below, survive the expiration or earlier termination of this Agreement).

5. **MISCELLANEOUS PROVISIONS**

5.1 Representations and Warranties. Each Party represents and warrants that:

- a) such Party is duly organized, validly existing and in good standing under the laws of the jurisdiction of its incorporation and has full corporate power and authority to enter into this Agreement and to carry out the provisions hereof;
- b) such Party has taken all corporate action necessary to authorize the execution and delivery of this Agreement and the performance of its obligations under this Agreement;
- c) this Agreement has been duly executed by such Party and constitutes a valid and legally binding obligation of such Party, enforceable in accordance with its terms;

- d) the execution, delivery and performance of this Agreement by such Party does not conflict with any agreement, instrument or understanding, oral or written, to which it is a party or by which it may be bound, nor violate any material law or regulation of any court, governmental body or administrative or other agency having jurisdiction over it;
- e) such Party has the right to grant the licenses and releases granted hereunder, and has the right to settle the Action, and more specifically, WesternGeco represents and warrants that any license to the WesternGeco Patents granted to Shearwater GeoServices AS or one of its affiliates does not prevent WesternGeco from granting the licenses and releases granted hereunder;
- f) there is no lawsuit or any other civil or administrative proceeding, or any claim or counterclaim of any kind, in any court, tribunal, governmental entity or agency, or dispute resolution proceeding (including, without limitation, arbitration and mediation) pending on the Effective Date that was commenced by such Party or any of its Affiliates against any other Party or any of its Affiliates involving the ION Patents, the WesternGeco Patents, or ION's ORCA, DigiFIN, or DigiFIN Lateral Controller products, other than the Action;
- g) such Party has not transferred, assigned, subrogated or pledged to any Third Party or to an Affiliate, the right to bring, pursue, or settle any of the claims, counterclaims, or demands made in the Action or released pursuant to Sections 3.3 and 3.4 of this Agreement, and more specifically, WesternGeco represents and warrants that it has not transferred any right to enforce the WesternGeco Patents to Shearwater GeoServices AS or one of its affiliates;
- h) such Party has been advised by its counsel of its rights and obligations under this Agreement and enters into this Agreement freely, voluntarily, and without duress; and
- i) such Party is not relying on any promises, inducements, statements or representations other than those provided herein. Each Party further represents and warrants that the terms of the Agreement were negotiated at arms-length, that this provision results from the parties' freedom to contract, that each Party was knowledgeable regarding business matters, and that each Party was represented by counsel. The Parties intend this Section 5.1(i) to be a clear and specific disclaimer- of-reliance that is enforceable and consistent with the Texas Supreme Court's decision in *Forest Oil Corp. v. McAllen*, 268 S.W.3d 51 (Tex. 2008).

5.2 Assignment. This Agreement and the rights herein shall not be assigned or otherwise transferred without the written consent of the Parties except as herein provided. The prior written consent of the Parties shall not be required (a) for a Party to assign or transfer this Agreement in its entirety pursuant to a sale of substantially all of the assets of the entity or business division to which this Agreement relates, or pursuant to a merger, consolidation, reorganization or similar transaction related to such Party or (b) for either Party to assign or transfer this Agreement in its entirety to an Affiliate. The Agreement as well as the rights or obligations shall be binding upon and inure to the benefit of the Parties and their respective successors and assigns as if such successors and assigns were

the original Parties to this Agreement or the respective rights and obligations. For avoidance of any doubt, any successors or assigns to this Agreement are permitted to assign the Agreement as if they were the original Parties to it, subject to the conditions of this Section 5.2.

5.3 Confidentiality. The Parties (including their Affiliates and their respective employees, officers, directors and other representatives, including without limitation accountants, attorneys and auditors) shall not disclose the terms of this Agreement to any Third Party, except as provided in this Section 5.3.

- a) The terms of this Agreement may be disclosed for purposes of enforcing the terms of this Agreement.
- b) The terms of this Agreement may be disclosed, without notice to the other Parties, to (i) any Party's legal counselors, auditors, accounting, financial advisors, or other similar professionals representing a Party, so long as any such Persons agree to be bound by the confidentiality requirements of this Agreement; and (ii) any Third Party that is a bona fide actual or potential investor, acquirer, merger partner, or other financial partner for the purpose of evaluating an investment, acquisition, merger, or similar transaction, so long as any such Third Party agrees to be bound by the confidentiality requirements of this Agreement.
- c) The terms of this Agreement may be disclosed if a Party is required to do so, in the opinion of legal counsel for such Party, by any applicable law, including the U.S. Securities Act of 1934, as amended, any governmental law or regulation, or the rules of any recognized stock exchange. Such disclosure shall be limited to the minimum required, as determined by the disclosing Party in consultation with its legal counsel.
- d) The Parties may respond to inquiries by the press or investors by indicating that the Action has been resolved on terms that are confidential. The Parties further agree to issue a joint press release as will be jointly agreed between the Parties as soon as reasonably possible after the execution of this Agreement.
- e) If a Party is required to provide the terms of this Agreement to a Third Party pursuant to a discovery demand, discovery order, or other legal processes or requirements, it shall inform the other Party in sufficient time prior to any such disclosure to allow the other Party to seek a protective order or confidential treatment prior to any such disclosure.
- f) The terms of this Agreement may be disclosed as otherwise agreed to by the Parties in writing.

5.4 Notices. All notices that are required or that may be permitted to be given pursuant to the terms of this Agreement shall be in writing and shall be sufficient in all respects if delivered by courier, by registered mail or by certified mail, return receipt requested, as follows:

If to ION:

ION Geophysical Corp.
2105 CityWest Blvd, Suite 100
Houston, Texas 77042
Attn: General Counsel

With a copy (which shall not constitute notice) to

David Berl
Williams & Connolly LLP
725 Twelfth Street, N.W.
Washington, DC 20005
dberl@wc.com

If to WesternGeco:

General Counsel WesternGeco
10001 Richmond Ave.,
Houston, Texas 77042-4299

With a copy (which shall not constitute notice) to:

Kirkland & Ellis LLP
1301 Pennsylvania Ave., NW
Washington, DC 20004
Attn: Gregg LoCascio

Any such notices shall be effective upon receipt by the addressee. Either Party may change its address for notice purposes by sending a notice of such change to the other Party in accordance with the terms of this Section 5.4.

5.5 Governing Law. This Agreement and matters connected with the performance of this Agreement shall be construed, interpreted, applied and governed in all respects in accordance with the procedural and substantive laws of the State of Texas, without reference to conflict of laws principles (and without reference to any law, such as a “borrowing” law, that would apply the law of another jurisdiction). This Agreement specifically prohibits an award of attorney’s fees under Chapter 38 of the Texas Civil Practice & Remedies Code or otherwise. Therefore, the Parties hereby waive any entitlement to recover attorney’s fees arising from a dispute concerning this Agreement and expressly waive any and all provisions, rights and benefits conferred by § 38.001 et seq. of the Texas Civil Practice & Remedies Code.

5.6 Jurisdiction and Venue. Any dispute, controversy or claim arising out of or relating to this Agreement, including the breach, termination, or validity thereof, shall be solely, exclusively and finally resolved by arbitration administered by the American Arbitration Association under its Commercial Arbitration Rules, to the exclusion of any other forum. **THE PARTIES UNDERSTAND THAT THIS MEANS THAT THEY**

EACH WAIVE ANY RIGHT TO TRIAL BY JURY OR TO HAVE A JURY PARTICIPATE IN RESOLVING ANY DISPUTE, WHETHER SOUNDING IN CONTRACT, TORT OR OTHERWISE, ARISING OUT OF OR RELATING TO THIS AGREEMENT. The arbitration shall be before a panel of three arbitrators, with each Party nominating one arbitrator, and the two party-nominated arbitrators selecting the third. The arbitration shall be governed by the Federal Arbitration Act, 9 U.S.C. §§ 1, et seq., and judgment on the award rendered by the arbitrators may be entered in any court having jurisdiction thereof. The Parties agree that, for purposes of discovery, each Party shall be entitled to conduct five (5) depositions of party employees and five (5) third-party depositions. Such depositions shall be conducted pursuant to subpoenas issued in accordance with Federal Rule of Civil Procedure 45 (“Rule 45”), and the Parties agree that the tribunal is expressly authorized and empowered to enforce such subpoenas. The Parties further agree that the transcripts of such depositions may be submitted as evidence in connection with any arbitration proceeding between the Parties. The place of arbitration shall be Houston, Texas.

5.7 Offsetting Payments. If ION becomes delinquent on any payment obligations under this Agreement, WesternGeco shall have the right to offset any payments owed by ION to WesternGeco against payments owed to ION by WesternGeco under the Campeche Agreements.

5.8 Proceedings. This Agreement may be offered in evidence and pleaded as a full and complete defense to any Claims that may be instituted, prosecuted, or attempted in breach of this Agreement. Any filing of this Agreement in such a proceeding shall be done under seal if permitted by rules of court or the tribunal or any applicable protective order.

5.9 Injunctive Relief. The Parties acknowledge and agree that: (i) any breach of this Agreement shall result in immediate and irreparable injury for which there is no adequate remedy available at law; and (ii) in addition to any other remedies available, specific performance and injunctive relief are appropriate remedies to compel performance of this Agreement.

5.10 Waiver. A waiver by any Party of any of the terms and conditions of this Agreement in any instance shall not be deemed or construed to be a waiver of such term or condition for the future, or of any subsequent breach hereof. All rights, remedies, undertakings, obligations and agreements contained in this Agreement shall be cumulative and none of them shall be in limitation of any other remedy, right, undertaking, obligation or agreement of any Party.

5.11 Bankruptcy. All rights and licenses, including revenue generated by licenses to third parties, granted under or pursuant to any Section of this Agreement are, and shall otherwise be deemed to be, for purposes of Section 365(n) of the U.S. Bankruptcy Code (the “Bankruptcy Code”), licenses of “intellectual property” as defined under the Bankruptcy Code. The Parties shall retain and may fully exercise all of their respective rights and elections under the Bankruptcy Code.

5.12 Severability. When possible, each provision of this Agreement will be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Agreement is held to be prohibited by or invalid under applicable law, such provision will be ineffective only to the extent of such prohibition or invalidity, without invalidating

the remainder of this Agreement.

5.13 Entire Agreement. The Parties acknowledge, accept, warrant and represent that (i) this is an enforceable agreement; (ii) this Agreement embodies the entire and only understanding of each of them with respect to the subject matter of the Agreement, and merges, supersedes and cancels all previous representations, warranties, assurances, conditions, definitions, understandings or any other statement, express, implied, or arising by operation of law, whether oral or written, whether by omission or commission between and among them with respect to the subject matter of the Agreement; and (iii) no oral explanation or oral information by either party hereto shall alter the meaning or interpretation of this Agreement.

5.14 Amendments. No amendment, modification, or supplement of any provisions of this Agreement shall be valid or effective unless made in writing and signed by a duly authorized officer of each Party.

5.15 Headings. The captions and descriptive headings of this Agreement are for convenience only, and shall be of no force or effect in construing or interpreting any of the provisions of this Agreement.

5.16 Waiver of Rule of Construction. Each Party has had the opportunity to consult with counsel in connection with the review, drafting and negotiation of this Agreement. Accordingly, any rule of construction that any ambiguity in this Agreement shall be construed against the drafting Party shall not apply.

5.17 Press Release. The Parties agree to issue a mutually agreed joint press release related to this Agreement and the settlement of the Action and the Administrative Proceedings. The joint press release shall not include any confidential details of this Agreement.

5.18 Counterparts. This Agreement may be executed in counterparts or duplicate originals, both of which shall be regarded as one and the same instrument, and which shall be the official and governing version in the interpretation of this Agreement. This Agreement may be executed by facsimile signatures and such signatures shall be deemed to bind each Party as if they were original signatures.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be signed below by their respective duly authorized officers or other representatives.

ION GEOPHYSICAL CORP.

WESTERNGECO, L.L.C.

By: _

By

Name : Christopher T. Usher

Name: Alex Shahade

Title: President & CEO

Title: Vice President

EXHIBIT A

**IN THE UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF
TEXAS HOUSTON DIVISION**

WESTERNGECO L.L.C.,))
)
Plaintiff,)				
v.)				
)	Civil Action No. 4:09-cv-1827
ION GEOPHYSICAL CORPORATION, ET AL.,))	Judge Keith P. Ellison
Defendants.)				
)				

**JOINT MOTION TO VACATE PERMANENT INJUNCTION AND TO DISMISS WITH PREJUDICE AND
PROPOSED ORDER**

WHEREAS Plaintiff WesternGeco LLC and Defendant ION Geophysical Corporation (collectively, “the Parties”) have entered into a Settlement Agreement; and

WHEREAS a condition of the Settlement Agreement requires that the Parties move the Court to vacate the permanent injunction entered against ION on June 19, 2013 (D.I. 634; *see also* D.I. 687, D.I. 770);

Accordingly, the Plaintiff WesternGeco LLC and Defendant ION Geophysical Corporation hereby jointly move the Court pursuant to Federal Rules of Civil Procedure 60(b) to vacate the permanent injunction (D.I. 634, D.I. 687, D.I. 770). WesternGeco and ION also jointly move pursuant to Rule 41(a) to dismiss this action **with** prejudice, including, but not limited to, all claims and counterclaims asserted therein, each party agreeing to bear its own fees and costs.

SO ORDERED.

United States District Judge

Dated: February , 2020. Respectfully submitted,

EXHIBIT B

**Amendment No. 7
to the Collaboration and Subcontracting Agreement between GX Geoscience Corporation, S. de R.L.
de C.V. (“ION”) and Dowell Schlumberger de Mexico S.A. de C.V. (“Schlumberger”)**

Amendment No. 7
to the Collaboration and Subcontracting Agreement between GX Geoscience Corporation, S. de R.L. de C.V. (“ION”) and Dowell Schlumberger de Mexico S.A. de C.V. (“Schlumberger”)

- A. **WHEREAS** ION and Schlumberger (individually, a “**Party**” and collectively, the “**Parties**”) are in the business of identifying, generating, acquiring, processing, operating, marketing and licensing non- exclusive seismic and other geophysical data projects for the oil and gas industry; and
- B. **WHEREAS** The Parties entered into a series of agreements (the “**Campeche Agreements**”) as listed below:

[*]

- C. **Whereas** the Campeche Agreements contain certain payment and compensation terms whereas WesternGeco shall make certain payments to ION. Those payment terms include payments of 50% of multicient revenue generated from the projects defined in the Campeche Agreements. ION and WesternGeco desire to modify the payment and compensation terms such that WesternGeco shall pay to ION 10% of multicient revenue generate from projects defined in the Campeche Agreements.
- D. **Whereas** ION Geophysical Corp. (an affiliate of ION) and WesternGeco LLC (an affiliate of Schlumberger) are engaged in a patent dispute in federal court in the Southern District of Texas

of the United States. ION Geophysical Corp. and WesternGeco LLC desire to cause ION and Schlumberger to enter into this **Seventh Amendment** as part of the resolution of their patent dispute. However, for the avoidance of doubt, neither the Campeche Agreements, nor Amendment No. 6, defined below, form a part or, or relate to, such patent dispute; and neither ION Geophysical Corporation, nor WesternGeco LLC are parties to, or guarantors of, the Campeche Agreements, Amendment No. 6 or this Seventh Amendment.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and in consideration of the mutual covenants and agreements contained in this Agreement and herein, the Parties agree that, effective as of the date of execution of this Agreement (the “**Effective Date**”), the Campeche Agreements are hereby modified and amended as set out below in this Amendment No. 7 (this “**Seventh Amendment**”).

1. From the Effective Date, the payment and compensation terms of the Campeche Agreements shall be amended as such:

With respect to any license that commences on or after the Effective Date (a “New License”), WesternGeco shall not be required to pay to ION 50% of Multiclient Licensing Revenue received from a Third Party with respect to the Campeche Agreements Project Data. WesternGeco shall pay to ION only 10% of Multiclient Licensing Revenue received under any New License from Third Party licensing of the Campeche Agreements Project Data. WesternGeco shall be entitled to take the same deductions (but no more) as it would have been able to take under the Campeche Agreements.

[*]

All terms and conditions of the Campeche Agreements shall continue to apply, *mutatis mutandis*, except as expressly modified by this Seventh Amendment. For the avoidance of doubt, ION’s right to receive revenue under any license or supplements of the Campeche Agreements Project Data that was entered into prior to the Effective Date shall remain unchanged.

“Campeche Agreements Project Data” means the Project Data as defined, as the case may be, in any of the agreements comprising the Campeche Agreements (but not the Project Data in Amendment No. 6). Capitalized terms not defined herein shall have the meaning ascribed to them in the Campeche Agreements.

2. [*]

3. For the absence of doubt, the terms of Amendment No. 6 to the Collaboration and Subcontracting Agreement between GX Geoscience Corporation, S. de R.L. de C.V. (“ION”) and Dowell Schlumberger de Mexico S.A. de C.V. (“Schlumberger”) dated 30 April 2018 (**Amendment No. 6**) shall remain unchanged.

4. [*]

5. [*]

6. ION shall be allowed to keep a copy of the Campeche Agreements Project Data, and any images it generates therefrom, for internal use only. Internal use includes use for testing internal algorithms and workflows, and for using for demonstration purposes outside of ION.

7. ION shall not create any new reimagined 3D multiclient project that covers any portion of the multiclient programs that are the subject of the Campeche Agreements, unless mutually agreed by WesternGeco and ION.

8. [*]

9. **Counterparts.** This Seventh Amendment may be executed in any number of counterparts, each of which shall be deemed an original, and all of such counterparts shall constitute one agreement. To facilitate execution of this Seventh Amendment, the parties may execute such counterparts and exchange copies of such executed counterparts via e-mail, and such e-mailed copies shall serve as originals.

10. **Governing Law/ Forum Selection / Dispute Resolution.** This Article 10 shall be deemed to apply to the Campeche Agreements, Amendment No. 6 and this Amendment No. 7 (collectively, the "Agreement"). This Agreement and matters connected with the performance of the Agreement shall be construed, interpreted, applied and governed in all respects in accordance with the procedural and substantive laws of the State of Texas, without reference to conflict of laws principles (and without reference to any law, such as a "borrowing" law, that would apply the law of another jurisdiction). Any dispute, controversy or claim arising out of or relating to the Agreement, including the breach, termination, or validity thereof, shall be solely, exclusively and finally resolved by arbitration administered by the American Arbitration Association under its Commercial Arbitration Rules, to the exclusion of any other forum. **THE PARTIES UNDERSTAND THAT THIS MEANS THAT THEY EACH WAIVE ANY RIGHT TO TRIAL BY JURY OR TO HAVE A JURY PARTICIPATE IN RESOLVING ANY DISPUTE, WHETHER SOUNDING IN CONTRACT, TORT OR OTHERWISE, ARISING OUT OF OR RELATING TO THE AGREEMENT.** The arbitration shall be before a panel of three arbitrators, with each Party nominating one arbitrator, and the two party-nominated arbitrators selecting the third. The arbitration shall be governed by the Federal Arbitration Act, 9 U.S.C. §§ 1, et seq., and judgment on the award rendered by the arbitrators may be entered in any court having jurisdiction thereof. The Parties agree that, for purposes of discovery, each Party shall be entitled to conduct five (5) depositions of party employees and five

(5) third-party depositions. Such depositions shall be conducted pursuant to subpoenas issued in accordance with Federal Rule of Civil Procedure 45 (“Rule 45”), and the Parties agree that the tribunal is expressly authorized and empowered to enforce such subpoenas. The Parties further agree that the transcripts of such depositions may be submitted as evidence in connection with any arbitration proceeding between the Parties. The place of arbitration shall be Houston, Texas.

11. The Campeche Agreements, as amended by Amendment No. 6 and this Seventh Amendment, constitute the entire agreement and understanding between the Parties relating to the subject matter hereof and supersede all prior proposals, negotiations, alleged oral promises, agreements and understandings relating thereto. With the exception of those terms and conditions specifically modified and amended herein, the Campeche Agreements shall remain in full force and effect in accordance with all their terms and conditions. In the event of any conflict between the terms and provisions of this Seventh Amendment and the terms and provisions of the Campeche Agreements, the terms and provisions of this Seventh Amendment shall supersede and control to the extent of such conflict but no further. (For the avoidance of doubt, the terms of this Seventh Amendment do not modify the terms of Amendment No. 6, which shall continue to operate as though this Seventh Amendment were not executed; except that the provisions of Section 10 above shall apply to the Campeche Agreements and to Amendment No. 6.)

IN WITNESS WHEREOF, the parties hereto have executed this Amendment No. 7 to the Collaboration and Subcontracting Agreement Between GX Geoscience Corporation, S. de R.L. de C.V. and Dowell Schlumberger de Mexico S.A. de C.V. as of the dates shown below, to be effective for all purposes, however, as of the Effective Date.

GX Geoscience Corporation, S. de R.L. de C.V. By: Name: Title: Date:	Dowell Schlumberger de Mexico S.A. de C.V. By: Name: Title: Date:
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**CERTIFICATION OF CHIEF EXECUTIVE OFFICER
PURSUANT TO RULE 13a-14(a) OR RULE 15d-14(a)**

I, Christopher Usher, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the period ended March 31, 2020, of ION Geophysical Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 7, 2020

/s/ Christopher Usher

Christopher Usher

President and Chief Executive Officer

**CERTIFICATION OF CHIEF FINANCIAL OFFICER
PURSUANT TO RULE 13a-14(a) OR RULE 15d-14(a)**

I, Mike Morrison, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the period ended March 31, 2020, of ION Geophysical Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 7, 2020

/s/ Mike Morrison

Mike Morrison

Executive Vice President and Interim Chief Financial Officer

**CERTIFICATION OF CHIEF EXECUTIVE OFFICER
PURSUANT TO 18 U.S.C. §1350**

In connection with the Quarterly Report of ION Geophysical Corporation (the "Company") on Form 10-Q for the period ended March 31, 2020, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Christopher Usher, President and Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, to my knowledge that:

1. The Report fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: May 7, 2020

/s/ Christopher Usher

Christopher Usher

President and Chief Executive Officer

**CERTIFICATION OF CHIEF FINANCIAL OFFICER
PURSUANT TO 18 U.S.C. §1350**

In connection with the Quarterly Report of ION Geophysical Corporation (the "Company") on Form 10-Q for the period ended March 31, 2020, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Mike Morrison, Executive Vice President and Interim Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, to my knowledge, that:

1. The Report fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: May 7, 2020

/s/ Mike Morrison

Mike Morrison

Executive Vice President and Interim Chief Financial Officer