

**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 June 30, 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 77042-2839
(Address of principal executive offices) (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	<input type="checkbox"/>	Accelerated filer	<input checked="" type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

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 August 3, 2020, there were 15,006,160 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)

	June 30, 2020	December 31, 2019
	(In thousands, except share data)	
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 62,540	\$ 33,065
Accounts receivable, net	10,577	29,548
Unbilled receivables	12,937	11,815
Inventories, net	11,862	12,187
Prepaid expenses and other current assets	4,462	6,012
Total current assets	102,378	92,627
Deferred income tax asset, net	7,987	8,734
Property, plant and equipment, net	11,920	13,188
Multi-client data library, net	51,935	60,384
Goodwill	18,029	23,585
Right-of-use assets	40,467	32,546
Other assets	3,513	2,130
Total assets	\$ 236,229	\$ 233,194
LIABILITIES AND DEFICIT		
Current liabilities:		
Current maturities of long-term debt	\$ 23,685	\$ 2,107
Accounts payable	37,254	49,316
Accrued expenses	25,606	30,328
Accrued multi-client data library royalties	21,316	18,831
Deferred revenue	4,058	4,551
Current maturities of operating lease liabilities	8,355	11,055
Total current liabilities	120,274	116,188
Long-term debt, net of current maturities	119,234	119,352
Operating lease liabilities, net of current maturities	40,409	30,833
Other long-term liabilities	422	1,453
Total liabilities	280,339	267,826
Deficit:		
Common stock, \$0.01 par value; authorized 26,666,667 shares; outstanding 14,245,829 and 14,224,787 shares at June 30, 2020 and December 31, 2019, respectively.	142	142
Additional paid-in capital	957,746	956,647
Accumulated deficit	(981,773)	(974,291)
Accumulated other comprehensive loss	(21,833)	(19,318)
Total stockholders' deficit	(45,718)	(36,820)
Noncontrolling interest	1,608	2,188
Total deficit	(44,110)	(34,632)
Total liabilities and deficit	\$ 236,229	\$ 233,194

See accompanying Footnotes to Condensed Consolidated Financial Statements.

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

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
(In thousands, except per share data)				
Service revenues	\$ 15,547	\$ 30,407	\$ 63,032	\$ 58,535
Product revenues	7,184	11,368	16,113	20,196
Total net revenues	22,731	41,775	79,145	78,731
Cost of services	13,267	16,795	35,542	39,241
Cost of products	4,880	5,397	9,508	9,995
Impairment of multi-client data library	—	—	1,167	—
Gross profit	4,584	19,583	32,928	29,495
Operating expenses:				
Research, development and engineering	3,036	5,186	7,044	10,543
Marketing and sales	1,219	6,060	6,077	11,853
General, administrative and other operating expenses	5,801	10,890	14,803	25,589
Impairment of goodwill	—	—	4,150	—
Total operating expenses	10,056	22,136	32,074	47,985
Income (loss) from operations	(5,472)	(2,553)	854	(18,490)
Interest expense, net	(3,414)	(3,111)	(6,635)	(6,223)
Other income (expense), net	6,771	96	7,200	(696)
Income (loss) before income taxes	(2,115)	(5,568)	1,419	(25,409)
Income tax expense	3,052	2,719	8,926	4,126
Net loss	(5,167)	(8,287)	(7,507)	(29,535)
Less: Net (income) loss attributable to noncontrolling interest	(52)	(335)	25	(447)
Net loss attributable to ION	\$ (5,219)	\$ (8,622)	\$ (7,482)	\$ (29,982)
Net loss per share:				
Basic	\$ (0.37)	\$ (0.61)	\$ (0.53)	\$ (2.13)
Diluted	\$ (0.37)	\$ (0.61)	\$ (0.53)	\$ (2.13)
Weighted average number of common shares outstanding:				
Basic	14,241	14,098	14,236	14,065
Diluted	14,241	14,098	14,236	14,065

See accompanying Footnotes to Condensed Consolidated Financial Statements.

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

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
	(In thousands)			
Net loss	\$ (5,167)	\$ (8,287)	\$ (7,507)	\$ (29,535)
Other comprehensive loss, net of taxes, as appropriate:				
Foreign currency translation adjustments	(734)	(940)	(2,515)	30
Comprehensive net loss	(5,901)	(9,227)	(10,022)	(29,505)
Comprehensive (income) loss attributable to noncontrolling interest	(52)	(335)	25	(447)
Comprehensive net loss attributable to ION	\$ (5,953)	\$ (9,562)	\$ (9,997)	\$ (29,952)

See accompanying Footnotes to Condensed Consolidated Financial Statements.

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

	Six Months Ended June 30,	
	2020	2019
(In thousands)		
Cash flows from operating activities:		
Net loss	\$ (7,507)	\$ (29,535)
Adjustments to reconcile net loss to cash provided by operating activities:		
Depreciation and amortization (other than multi-client data library)	1,848	2,098
Amortization of multi-client data library	12,701	19,396
Stock-based compensation expense	1,094	2,831
Impairment of multi-client data library	1,167	—
Impairment of goodwill	4,150	—
Amortization of government relief funding expected to be forgiven	(6,923)	—
Deferred income taxes	338	(467)
Changes in operating assets and liabilities:		
Accounts receivable	18,678	8,734
Unbilled receivables	(2,080)	21,575
Inventories	179	735
Accounts payable, accrued expenses and accrued royalties	(6,930)	(6,054)
Deferred revenue	(466)	(3,337)
Other assets and liabilities	102	(1,711)
Net cash provided by operating activities	<u>16,351</u>	<u>14,265</u>
Cash flows from investing activities:		
Investment in multi-client data library	(14,596)	(14,782)
Purchase of property, plant and equipment	(697)	(1,412)
Net cash used in investing activities	<u>(15,293)</u>	<u>(16,194)</u>
Cash flows from financing activities:		
Borrowings under revolving line of credit	27,000	—
Payments under revolving line of credit	(4,500)	—
Proceeds from government relief funding	6,923	—
Payments on notes payable and long-term debt	(1,527)	(1,406)
Other financing activities	5	(551)
Net cash provided by (used in) financing activities	<u>27,901</u>	<u>(1,957)</u>
Effect of change in foreign currency exchange rates on cash, cash equivalents and restricted cash	538	(102)
Net increase (decrease) in cash, cash equivalents and restricted cash	29,497	(3,988)
Cash, cash equivalents and restricted cash at beginning of period	33,118	33,854
Cash, cash equivalents and restricted cash at end of period	<u>\$ 62,615</u>	<u>\$ 29,866</u>

See accompanying Footnotes to Condensed Consolidated Financial Statements.

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

Three Months Ended June 30, 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 April 1, 2020	14,240,126	\$ 142	\$ 957,254	\$ (976,554)	\$ (21,099)	\$ 1,654	\$ (38,603)
Comprehensive income (loss):							
Net (loss) income	—	—	—	(5,219)	—	52	(5,167)
Translation adjustments	—	—	—	—	(734)	(98)	(832)
Stock-based compensation expense	—	—	477	—	—	—	477
Exercise of stock options	5,000	—	15	—	—	—	15
Vesting of restricted stock units/awards	1,000	—	—	—	—	—	—
Vested restricted stock cancelled for employee minimum income taxes	(297)	—	—	—	—	—	—
Balance at June 30, 2020	14,245,829	\$ 142	\$ 957,746	\$ (981,773)	\$ (21,833)	\$ 1,608	\$ (44,110)

Six Months Ended June 30, 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) income	—	—	—	(7,482)	—	(25)	(7,507)
Translation adjustments	—	—	—	—	(2,515)	(555)	(3,070)
Stock-based compensation expense	—	—	1,094	—	—	—	1,094
Exercise of stock options	5,000	—	15	—	—	—	15
Vesting of restricted stock units/awards	17,089	—	—	—	—	—	—
Vested restricted stock cancelled for employee minimum income taxes	(1,047)	—	(10)	—	—	—	(10)
Balance at June 30, 2020	14,245,829	\$ 142	\$ 957,746	\$ (981,773)	\$ (21,833)	\$ 1,608	\$ (44,110)

Three Months Ended June 30, 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 April 1, 2019	14,069,520	\$ 141	\$ 953,679	\$ (947,452)	\$ (19,472)	\$ 1,665	\$ (11,439)
Comprehensive income (loss):							
Net (loss) income	—	—	—	(8,622)	—	335	(8,287)
Translation adjustment	—	—	—	—	(940)	59	(881)
Stock-based compensation expense	—	—	1,538	—	—	—	1,538
Exercise of stock options	18,750	1	58	—	—	—	59
Vesting of restricted stock units/awards	133,432	1	(1)	—	—	—	—
Vested restricted stock cancelled for employee minimum income taxes	(50,141)	(1)	(370)	—	—	—	(371)
Balance at June 30, 2019	14,171,561	\$ 142	\$ 954,904	\$ (956,074)	\$ (20,412)	\$ 2,059	\$ (19,381)

Six Months Ended June 30, 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	—	—	—	(29,982)	—	447	(29,535)
Translation adjustment	—	—	—	—	30	20	50
Stock-based compensation expense	—	—	2,831	—	—	—	2,831
Exercise of stock options	24,500	1	76	—	—	—	77
Vesting of restricted stock units/awards	201,631	2	(2)	—	—	—	—
Vested restricted stock cancelled for employee minimum income taxes	(70,185)	(1)	(627)	—	—	—	(628)
Balance at June 30, 2019	14,171,561	\$ 142	\$ 954,904	\$ (956,074)	\$ (20,412)	\$ 2,059	\$ (19,381)

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 June 30, 2020, and the condensed consolidated statements of operations, condensed consolidated statements of comprehensive loss, condensed consolidated statements of stockholders’ deficit for the three and six months ended June 30, 2020 and 2019 and the condensed consolidated statements of cash flows for the six months ended June 30, 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) loss 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 reduce 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. Brent crude oil prices rebounded to \$41 per barrel from increased global demand as pandemic restrictions started to ease and decreased production but remained significantly lower compared to the start of the year. The record production cut agreed to by OPEC and other oil producing countries in April was extended through July 2020.

While commodity prices can be volatile, the sharp decline earlier this year triggered E&P companies to reduce budgets and delay near-term spending, but is also a catalyst to drive necessary cost restructuring and digital transformation of the E&P ecosystem. Onshore North America has had steeper declines than the international market, and the Company’s geographic focus is global offshore. Even so, the Company has already seen a material slowdown in offshore seismic activity and expect that the second half of 2020 have its challenges.

The Company 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. The Company had already shifted its portfolio closer to reservoir, where revenue tends to be higher and more consistent. New Venture 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, the Company believes the demand for digitalization technologies will remain strong. 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, the Company’s first half revenues are greater than or equal to revenues in the comparable prior five years. There was a strong improvement in the Company’s cash balance from collection of accounts receivable related to its strong first quarter sales and realizing the additional cost reduction measures put in place entering the quarter as well as receiving government relief funding. The Company worked closely with its clients to understand revised budgets and to scale its business appropriately. To mitigate the impact of COVID-19 and oil price volatility, management implemented a plan to preserve cash and manage liquidity as follows:

- Scaled down personnel costs and operating expenses in April 2020 by another \$18.0 million during the remaining nine months of 2020, building on the over \$20.0 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 have 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.
- Reduced capital expenditures to an estimated \$25.0 million to \$35.0 million (a portion of which will be pre-funded or underwritten by the customers), down from the original budget of \$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 reimagining programs.
- Applied for various government assistance programs, of which approximately \$7.0 million was received during the period. Receipt of this assistance allowed the Company to avoid further staff reductions while supporting its ongoing operations.
- Re-negotiated existing lease agreements for its significant locations to obtain rent relief of approximately \$4.0 million. The majority of the cash savings from the rent relief is expected to benefit the Company from July 2020 to March 2021. See Note 12 "*Lease Obligations*" for further details.
- Announced the sale of its interest in INOVA Geophysical for \$12.0 million that is expected to close during the fourth quarter of the year, subject to regulatory approvals and other closing conditions.
- Entered into a settlement agreement with WesternGeco ending the decade-long patent litigation. See Note 9 "*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, which includes the use of government assistance programs, along with the Company's existing cash balance, and the undrawn remaining borrowing capacity under its Credit Facility will be sufficient to meet the Company's anticipated cash needs for the next twelve months.

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 six months ended June 30, 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 June 30, 2020 before impairment charge was comprised of \$19.2 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 six months ended June 30, 2020. See Note 10 “*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 June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Net revenues:				
E&P Technology & Services:				
New Venture	\$ 4,686	\$ 5,018	\$ 6,127	\$ 18,489
Data Library	6,867	17,794	46,998	27,742
Total multi-client revenues	11,553	22,812	53,125	46,231
Imaging and Reservoir Services	3,673	5,711	8,615	9,395
Total	15,226	28,523	61,740	55,626
Operations Optimization:				
Optimization Software & Services	3,377	5,720	7,804	10,753
Devices	4,128	7,532	9,601	12,352
Total	7,505	13,252	17,405	23,105
Total net revenues	\$ 22,731	\$ 41,775	\$ 79,145	\$ 78,731
Gross profit:				
E&P Technology & Services	\$ 2,264	\$ 12,357	\$ 25,994	\$ 17,797
Operations Optimization	2,320	7,226	6,934	11,698
Total gross profit	\$ 4,584	\$ 19,583	\$ 32,928	\$ 29,495
Gross margin:				
E&P Technology & Services	15 %	43 %	42 %	32 %
Operations Optimization	31 % (a)	55 %	40 % (a)	51 %
Total gross margin	20 %	47 %	42 %	37 %
Income (loss) from operations:				
E&P Technology & Services	\$ 442	\$ 5,237	\$ 18,394 (b)	\$ 3,622
Operations Optimization	(474)	2,644	(3,733) (c)	2,814
Support and other	(5,440)	(10,434)	(13,807)	(24,926)
Income (loss) from operations	(5,472)	(2,553)	854	(18,490)
Interest expense, net	(3,414)	(3,111)	(6,635)	(6,223)
Other income (expense), net	6,771 (d)	96	7,200 (d)	(696)
Income (loss) before income taxes	\$ (2,115)	\$ (5,568)	\$ 1,419	\$ (25,409)

(a) Operations Optimization segment gross margin is negatively impacted by an out of period adjustment to cost of sales of \$1.3 million for the three and six months ended June 30, 2020. Excluding this adjustment, gross margin would have been 48% and 47%, respectively, for the three and six months ended June 30, 2020. See "Out-of-Period Adjustments" below for further details.

(b) Includes impairment of multi-client data library of \$1.2 million partly offset by a positive out of period adjustment of \$1.0 million for the six months ended June 30, 2020. See "Out-of-Period Adjustments" below for further details.

(c) Includes impairment of goodwill of \$4.2 million for the six months ended June 30, 2020.

(d) Includes amortization of the government relief funding expected to be forgiven of \$6.9 million for the three and six months ended June 30, 2020.

Intersegment sales are insignificant for all periods presented.

Out-of-Period Adjustments

During the second quarter of 2020, the Company identified two unrelated adjustments impacting prior periods. The net impact of these two out-of-period adjustments was an increase to loss from operations and net loss for the second quarter of 2020 of \$0.3 million. The Company does not consider the adjustments, either individually or collectively, to be material to the prior periods nor to the second quarter of 2020.

The first adjustment involved the release of previously deferred inventory costs within the Operations Optimization segment. These inventory costs were associated with towed streamer equipment repairs for repair orders which had been completed in prior periods. The Company made an adjustment to reduce the deferred inventory costs and recorded an increase to cost of products of \$1.3 million during the quarter. Excluding this adjustment, Gross Margin of the Operations Optimization segment would have been 48% and 47%, as adjusted, compared to 31% and 40%, as reported, respectively, for the three and six months ended June 30, 2020.

The second adjustment related to the release of a commission accrual within the E&P Technology & Services segment of \$1.0 million. The Company noted that certain accrued commissions were no longer payable as the associated sales targets were

not met within a specified timeframe, which timeframe had lapsed in prior periods. The Company released the commission accrual and recorded a reduction in marketing and sales expense of \$1.0 million during the quarter.

(4) Revenue From Contracts With Customers

The Company derives revenue from the (i) sale or license of multi-client and proprietary data, imaging 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 June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
North America	\$ 5,631	\$ 13,645	\$ 37,441	\$ 20,802
Latin America	4,966	14,321	14,770	27,852
Asia Pacific	2,631	3,676	11,919	5,543
Europe	6,176	6,123	9,986	16,515
Middle East	942	1,106	1,896	2,465
Africa	1,004	2,278	1,595	4,667
Other	1,381	626	1,538	887
Total	\$ 22,731	\$ 41,775	\$ 79,145	\$ 78,731

See Note 3 "Segment Information" for revenue by segment for the three and six months ended June 30, 2020 and 2019.

Unbilled Receivables

Unbilled receivables relate to revenues recognized on multi-client surveys, imaging and reservoir 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):

	June 30, 2020	December 31, 2019
New Venture	\$ 5,515	\$ 5,222
Imaging and Reservoir Services	5,647	6,539
Devices	1,775	54
Total	\$ 12,937	\$ 11,815

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

Unbilled receivables at December 31, 2019	\$ 11,815
Recognition of unbilled receivables	76,561
Revenues billed to customers	(75,439)
Unbilled receivables at June 30, 2020	\$ 12,937

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):

	June 30, 2020	December 31, 2019
New Venture	\$ 2,385	\$ 1,956
Imaging and Reservoir Services	872	1,501
Optimization Software & Services	696	642
Devices	105	452
Total	<u>\$ 4,058</u>	<u>\$ 4,551</u>

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	2,094
Recognition of deferred revenue ^(a)	(2,587)
Deferred revenue at June 30, 2020	<u>\$ 4,058</u>

^(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 six months ended June 30, 2020, the Company had one customer with sales that exceeded 10% of the Company's consolidated net revenues. For six months ended June 30, 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 June 30, 2020, the Company had two customers with balances that accounted for 33% 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 June 30, 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):

	June 30, 2020	December 31, 2019
Senior secured second-priority lien notes (maturing December 15, 2021)	\$ 120,569	\$ 120,569
Revolving credit facility (maturing August 16, 2023) ^(a)	22,500	—
Equipment finance leases (Note 12)	1,315	1,869
Other debt	—	972
Costs associated with issuances of debt	(1,465)	(1,951)
Total	<u>142,919</u>	<u>121,459</u>
Current maturities of long-term debt	<u>(23,685)</u>	<u>(2,107)</u>
Long-term debt, net of current maturities	<u>\$ 119,234</u>	<u>\$ 119,352</u>

^(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 available 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 June 30, 2020, there was \$22.5 million outstanding indebtedness under the Credit Facility and the undrawn remaining borrowing base capacity was \$8.8 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 June 30, 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 June 30, 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) Government Relief Funding

On April 11, 2020, the Company entered into a Note Agreement (“Note”) with PNC amounting to \$6.9 million pursuant to the Coronavirus Aid, Relief, and Economic Security Act’s (“CARES Act”) Paycheck Protection Program (“PPP”). Amounts outstanding under this Note will bear interest at 1% per annum as of the date of disbursement. Interest will be calculated based on the actual number of days that principal is outstanding over a year of 360 days. The Note matures in two years after the receipt of the loan proceeds.

The Company will apply to PNC for forgiveness of the amount due on this Note in an amount based on the sum of the following costs incurred by the Company’s US operations during the 24-week period beginning on the date of first disbursement (For payroll costs, it is beginning on the date of the first pay period following disbursement. For non-payroll costs, it is beginning on the date of first disbursement.) of this Note: (a) payroll costs; (b) any payment on a covered rent obligation; and (c) any covered utility payment. The amount of forgiveness shall be calculated (and may be reduced) in accordance with the requirements of the PPP, including the provisions of Section 1106 of the CARES Act. The forgiveness amount will be subject to the Small Business Administration’s review. Any outstanding principal amount under this Note that is not forgiven under the PPP shall convert to an amortizing term loan.

The Company recognized the Note following the government grant accounting by analogy to International Accounting Standards (“IAS”) 20, “Accounting for Government Grants and Disclosure of Government Assistance.” During the period ending June 30, the Company recognized the principal amount estimated to be forgiven as deferred income liability and is amortized to other income on a systematic and rational basis. Any outstanding principal amount not expected to be forgiven is recognized as other debt. The Company expects that the full amount of the Note will be forgiven and recognized amortization of the entire deferred income liability of \$6.9 million to other income in the condensed consolidated income statements for the three and six months ended June 30, 2020 as the related expense it intends to offset were incurred from April 2020 to June 2020. If, despite the Company’s good-faith belief that given its circumstances the Company satisfied all eligible requirements for the PPP Loan, the Company is later determined to have not been in compliance with these requirements or it is otherwise determined that it was ineligible to receive the PPP Loan, the Company may be required to repay the PPP Loan in its entirety and/or be subject to additional penalties. Should the Company be audited or reviewed by federal or state regulatory authorities as a result of filing an application for forgiveness of the PPP Loan or otherwise, such audit or review could result in a change in the Company’s estimate of the amount of forgiveness recorded in the condensed consolidated financial statements.

(7) 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 June 30, 2020 and 2019 of 647,483 and 766,659, 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 June 30, 2020 and 2019 of 873,371 and 794,994, respectively, were excluded as their inclusion would have an anti-dilutive effect.

(8) 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 six months ended June 30, 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 and six months ended June 30, 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 rates for the six months ended June 30, 2020 were also negatively impacted by the establishment of a valuation allowance related to certain foreign losses. Due to the impact of the valuation allowances on tax expense, the Company's effective tax rates are not meaningful for all periods presented. The Company's income tax expense for the six months ended June 30, 2020 of \$8.9 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 9 "*Litigation*".

In response to the global pandemic related to COVID-19, the President of the United States signed into law 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 six months ended June 30, 2020, there were no material tax impacts to our condensed consolidated financial statements as it relates to COVID-19 measures. The Company received \$0.8 million of AMT credit refund for the three and six months ended June 30, 2020. The Company continues to monitor additional guidance issued by the U.S. Treasury Department, the Internal Revenue Service and others.

At June 30, 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 June 30, 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.

(9) 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 data library 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 reimaging programs offshore Mexico.

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 States, plus interest) was vacated by the United States Court of Appeals for the Federal Circuit (the award of lost profit damages was vacated because the Patent Trial and Appeal Board of the Patent and Trademark Office invalidated four of the five patent claims that could have supported an award of lost profit), 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 early 2020. The Company prepared a petition to file with the court to request that a 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 September 9, 2020. The Company has not escrowed the money as of June 30, 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.

(10) Details of Selected Balance Sheet Accounts

Inventories

A summary of inventories follows (in thousands):

	June 30, 2020	December 31, 2019
Raw materials and subassemblies	\$ 18,128	\$ 18,509
Work-in-process	2,068	2,079
Finished goods	4,568	4,932
Less: reserve for excess and obsolete inventories	(12,902)	(13,333)
Inventories, net	<u>\$ 11,862</u>	<u>\$ 12,187</u>

Property, Plant and Equipment

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

	June 30, 2020	December 31, 2019
Buildings	\$ 15,694	\$ 15,486
Machinery and equipment	133,923	133,048
Seismic rental equipment	1,671	1,669
Furniture and fixtures	3,155	3,347
Other ^(a)	29,989	31,142
Total	184,432	184,692
Less: accumulated depreciation	(135,959)	(134,951)
Less: impairment of long-lived assets	(36,553)	(36,553)
Property, plant and equipment, net	\$ 11,920	\$ 13,188

^(a) Consists primarily of cable-based ocean bottom acquisition technologies that were fully impaired.

Total depreciation expense, including amortization of assets recorded under equipment finance leases, for both the six months ended June 30, 2020 and 2019 was \$1.8 million and \$1.6 million, respectively. No impairment charge was recognized during the six months ended June 30, 2020 and 2019.

Multi-client Data Library

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

	June 30, 2020	December 31, 2019
Gross costs of multi-client data creation	\$ 1,013,181	\$ 1,007,762
Less: accumulated amortization	(829,102)	(816,401)
Less: impairments to multi-client data library	(132,144)	(130,977)
Multi-client data library, net	\$ 51,935	\$ 60,384

Total amortization expense for the six months ended June 30, 2020 and 2019 was \$12.7 million and \$19.4 million, respectively. For the six months ended June 30, 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 six months ended June 30, 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	—	(1,406)	(1,406)
Balance at June 30, 2020	\$ 2,943	\$ 15,086	\$ 18,029

The Company, following the qualitative consideration, 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 first quarter of 2020, markets for oil and gas, as well as other commodities and equities, 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, following the quantitative consideration, 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.

As a result of this assessment, the Company recorded an impairment charge of \$4.2 million for the six months ended June 30, 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 six months ended June 30, 2020.

(11) 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 June 30, 2020 and 2019 was 647,483 and 766,659, respectively, and the total number of shares of restricted stock and shares reserved for restricted stock units outstanding at June 30, 2020 and 2019 was 873,371 and 794,994, respectively. The total number of stock appreciation rights ("SARs") awards outstanding at June 30, 2020 and 2019 was 906,850 and 1,063,013, 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 six months ended June 30, 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	(5,000)	(17,089)	—
Cancelled/forfeited	(36,726)	(85,794)	(47,829)
Outstanding at June 30, 2020	647,483	873,371	906,850

Stock-based compensation expense recognized for the six months ended June 30, 2020 and 2019, totaled \$1.1 million and \$2.8 million, respectively. SARs (credit) expense recognized for the six months ended June 30, 2020 and 2019, totaled \$(1.0) million and \$2.0 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 June 30, 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 %

(12) 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. In July 2020, the Company re-negotiated the abovementioned lease agreement to modify the rent abatement period from October 2023 through February 2024 to July 2020 through March 2021.

In May 2020, the Company amended its Houston data center lease agreement to reflect changes in the monthly base rent throughout the term of the lease and extend the lease term three months to December 2025.

Total operating lease expense, including short-term lease expense was \$5.3 million and \$5.7 million for the six months ended June 30, 2020 and 2019, respectively.

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

For the year ending June 30,	Operating Leases ^(a)	Finance Leases	Total
2021	\$ 8,047	\$ 1,254	\$ 9,301
2022	9,011	130	9,141
2023	9,826	—	9,826
2024	7,096	—	7,096
2025	9,190	—	9,190
Thereafter	20,036	—	20,036
Total lease payments	63,206	1,384	64,590
Less: imputed interest	(14,441)	(69)	(14,510)
Total	\$ 48,765	\$ 1,315	\$ 50,080

^(a) Future maturities are updated to reflect the rent relief impact related to the Houston data center lease amendment.

The weighted average remaining lease term as of June 30, 2020 and December 31, 2019 was 5.33 years and 4.71 years, respectively. The weighted average discount rate used to determine the operating lease liability at June 30, 2020 and December 31, 2019 was 6.42% and 6.47%, respectively.

	Six Months Ended June 30,	
	2020	2019
Cash paid for amounts included in the measurement of lease liabilities:		
Operating leases	\$ 5,169	\$ 6,261
Equipment finance leases	555	537

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.

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

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

	Six Months Ended June 30,	
	2020	2019
Cash paid during the period for:		
Interest	\$ 6,048	\$ 5,895
Income taxes	5,448	6,676

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

	June 30,	
	2020	2019
	(In thousands)	
Cash and cash equivalents	\$ 62,540	\$ 29,563
Restricted cash included in prepaid expenses and other assets	75	303
Total cash, cash equivalents, and restricted cash shown in statements of cash flows	\$ 62,615	\$ 29,866

(14) Fair Value of Financial Instruments

Authoritative guidance on fair value measurements defines fair value, establishes a framework for measuring fair value and stipulates the related disclosure requirements. The Company follows a three-level hierarchy, 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 including quoted prices or other market data for similar assets and liabilities in active markets or quoted prices for identical or similar assets and liabilities in less active markets.

Level 3—Significant unobservable inputs that require significant judgment for which there is little or no market data.

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 June 30, 2020 and December 31, 2019 were \$144.4 million and \$123.4 million, respectively, compared to its fair values of \$120.9 million and \$116.6 million at June 30, 2020 and December 31, 2019, respectively. Market conditions could cause an instrument to be reclassified from Level 1 to Level 2, or Level 2 to Level 3. The fair value of the long-term debt was reclassified from Level 1 to Level 2 during the six months ended June 30, 2020 resulting from less active market trading. 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 exist, 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.

(15) 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	June 30, 2020				
	ION Geophysical Corporation	The Guarantors	All Other Subsidiaries	Consolidating Adjustments	Total Consolidated
	(In thousands)				
ASSETS					
Current assets:					
Cash and cash equivalents	\$ 47,328	\$ 20	\$ 15,192	\$ —	\$ 62,540
Accounts receivable, net	8	5,912	4,657	—	10,577
Unbilled receivables	—	7,514	5,423	—	12,937
Inventories, net	—	6,836	5,026	—	11,862
Prepaid expenses and other current assets	1,975	1,366	1,121	—	4,462
Total current assets	49,311	21,648	31,419	—	102,378
Deferred income tax asset	—	7,882	105	—	7,987
Property, plant and equipment, net	1,524	7,095	3,301	—	11,920
Multi-client data library, net	—	44,347	7,588	—	51,935
Investment in subsidiaries	853,858	278,300	—	(1,132,158)	—
Goodwill	—	—	18,029	—	18,029
Intercompany receivables	—	284,828	118,065	(402,893)	—
Right-of-use assets	21,870	14,022	4,575	—	40,467
Other assets	2,637	825	51	—	3,513
Total assets	\$ 929,200	\$ 658,947	\$ 183,133	\$ (1,535,051)	\$ 236,229
LIABILITIES AND (DEFICIT) EQUITY					
Current liabilities:					
Current maturities of long-term debt	\$ 22,500	\$ 1,185	\$ —	\$ —	\$ 23,685
Accounts payable	1,854	33,806	1,594	—	37,254
Accrued expenses	11,318	6,274	8,014	—	25,606
Accrued multi-client data library royalties	—	21,101	215	—	21,316
Deferred revenue	—	2,922	1,136	—	4,058
Current maturities of operating lease liabilities	3,526	3,668	1,161	—	8,355
Total current liabilities	39,198	68,956	12,120	—	120,274
Long-term debt, net of current maturities	119,105	129	—	—	119,234
Operating lease liabilities, net of current maturities	21,037	15,319	4,053	—	40,409
Intercompany payables	795,192	—	—	(795,192)	—
Other long-term liabilities	386	36	—	—	422
Total liabilities	974,918	84,440	16,173	(795,192)	280,339
(Deficit) Equity:					
Common stock	142	290,460	47,776	(338,236)	142
Additional paid-in capital	957,746	180,700	203,909	(384,609)	957,746
Accumulated earnings (deficit)	(981,773)	404,753	24,715	(429,468)	(981,773)
Accumulated other comprehensive income (loss)	(21,833)	4,238	(24,393)	20,155	(21,833)
Due from ION Geophysical Corporation	—	(305,644)	(86,655)	392,299	—
Total stockholders’ (deficit) equity	(45,718)	574,507	165,352	(739,859)	(45,718)
Noncontrolling interest	—	—	1,608	—	1,608
Total (deficit) equity	(45,718)	574,507	166,960	(739,859)	(44,110)
Total liabilities and (deficit) equity	\$ 929,200	\$ 658,947	\$ 183,133	\$ (1,535,051)	\$ 236,229

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)	(36,820)
Total liabilities and (deficit) equity	\$ 867,541	\$ 689,982	\$ 184,096	\$ (1,508,425)	\$ 233,194

Income Statement	Three Months Ended June 30, 2020				
	ION Geophysical Corporation	The Guarantors	All Other Subsidiaries	Consolidating Adjustments	Total Consolidated
	(In thousands)				
Net revenues	\$ —	\$ 11,748	\$ 10,983	\$ —	\$ 22,731
Cost of sales	—	13,231	4,916	—	18,147
Gross profit (loss)	—	(1,483)	6,067	—	4,584
Total operating expenses	5,332	2,724	2,000	—	10,056
Income (loss) from operations	(5,332)	(4,207)	4,067	—	(5,472)
Interest expense, net	(3,310)	(124)	20	—	(3,414)
Intercompany interest, net	(268)	(1,532)	1,800	—	—
Equity in earnings (losses) of investments	(1,682)	4,160	—	(2,478)	—
Other income	6,758	6	7	—	6,771
Net income (loss) before income taxes	(3,834)	(1,697)	5,894	(2,478)	(2,115)
Income tax expense (benefit)	1,385	(10)	1,677	—	3,052
Net income (loss)	(5,219)	(1,687)	4,217	(2,478)	(5,167)
Net income attributable to noncontrolling interest	—	—	(52)	—	(52)
Net income (loss) attributable to ION	\$ (5,219)	\$ (1,687)	\$ 4,165	\$ (2,478)	\$ (5,219)
Comprehensive net income (loss)	\$ (5,953)	\$ (1,687)	\$ 3,435	\$ (1,696)	\$ (5,901)
Comprehensive income attributable to noncontrolling interest	—	—	(52)	—	(52)
Comprehensive net income (loss) attributable to ION	\$ (5,953)	\$ (1,687)	\$ 3,383	\$ (1,696)	\$ (5,953)

Income Statement	Three Months Ended June 30, 2019				
	ION Geophysical Corporation	The Guarantors	All Other Subsidiaries	Consolidating Adjustments	Total Consolidated
	(In thousands)				
Net revenues	\$ —	\$ 26,465	\$ 15,310	\$ —	\$ 41,775
Cost of sales	—	15,741	6,451	—	22,192
Gross profit	—	10,724	8,859	—	19,583
Total operating expenses	8,977	9,153	4,006	—	22,136
Income (loss) from operations	(8,977)	1,571	4,853	—	(2,553)
Interest expense, net	(3,197)	(58)	144	—	(3,111)
Intercompany interest, net	223	(2,051)	1,828	—	—
Equity in earnings of investments	3,511	6,387	—	(9,898)	—
Other income (expense), net	(19)	(88)	203	—	96
Net income (loss) before income taxes	(8,459)	5,761	7,028	(9,898)	(5,568)
Income tax expense	163	1,162	1,394	—	2,719
Net income (loss)	(8,622)	4,599	5,634	(9,898)	(8,287)
Net income attributable to noncontrolling interest	—	—	(335)	—	(335)
Net income (loss) attributable to ION	\$ (8,622)	\$ 4,599	\$ 5,299	\$ (9,898)	\$ (8,622)
Comprehensive net income (loss)	\$ (9,562)	\$ 4,599	\$ 4,341	\$ (8,605)	\$ (9,227)
Comprehensive income attributable to noncontrolling interest	—	—	(335)	—	(335)
Comprehensive net income (loss) attributable to ION	\$ (9,562)	\$ 4,599	\$ 4,006	\$ (8,605)	\$ (9,562)

Income Statement	Six Months Ended June 30, 2020				
	ION Geophysical Corporation	The Guarantors	All Other Subsidiaries	Consolidating Adjustments	Total Consolidated
	(In thousands)				
Net revenues	\$ —	\$ 52,170	\$ 26,975	\$ —	\$ 79,145
Cost of sales	—	35,031	10,019	—	45,050
Impairment of multi-client data library	—	1,167	—	—	1,167
Gross profit	—	15,972	16,956	—	32,928
Total operating expenses	13,452	9,704	4,768	—	27,924
Impairment of goodwill	—	—	4,150	—	4,150
Income (loss) from operations	(13,452)	6,268	8,038	—	854
Interest expense, net	(6,555)	(162)	82	—	(6,635)
Intercompany interest, net	(458)	(3,459)	3,917	—	—
Equity in earnings (losses) of investments	7,946	5,892	—	(13,838)	—
Other income	8,143	6	(949)	—	7,200
Net income (loss) before income taxes	(4,376)	8,545	11,088	(13,838)	1,419
Income tax expense (benefit)	3,106	585	5,235	—	8,926
Net income (loss)	(7,482)	7,960	5,853	(13,838)	(7,507)
Net income attributable to noncontrolling interest	—	—	25	—	25
Net income (loss) attributable to ION	\$ (7,482)	\$ 7,960	\$ 5,878	\$ (13,838)	\$ (7,482)
Comprehensive net income (loss)	\$ (9,997)	\$ 7,917	\$ 3,367	\$ (11,309)	\$ (10,022)
Comprehensive loss attributable to noncontrolling interest	—	—	25	—	25
Comprehensive net income (loss) attributable to ION	\$ (9,997)	\$ 7,917	\$ 3,392	\$ (11,309)	\$ (9,997)

Income Statement	Six Months Ended June 30, 2019				
	ION Geophysical Corporation	The Guarantors	All Other Subsidiaries	Consolidating Adjustments	Total Consolidated
	(In thousands)				
Net revenues	\$ —	\$ 44,078	\$ 34,653	\$ —	\$ 78,731
Cost of sales	—	35,941	13,295	—	49,236
Gross profit	—	8,137	21,358	—	29,495
Total operating expenses	21,816	18,228	7,941	—	47,985
Income (loss) from operations	(21,816)	(10,091)	13,417	—	(18,490)
Interest expense, net	(6,363)	(107)	247	—	(6,223)
Intercompany interest, net	523	2,598	(3,121)	—	—
Equity in earnings (losses) of investments	(1,658)	8,388	—	(6,730)	—
Other expense, net	(12)	(210)	(474)	—	(696)
Net income (loss) before income taxes	(29,326)	578	10,069	(6,730)	(25,409)
Income tax expense (benefit)	656	(129)	3,599	—	4,126
Net income (loss)	(29,982)	707	6,470	(6,730)	(29,535)
Net income attributable to noncontrolling interests	—	—	(447)	—	(447)
Net income (loss) applicable to ION	\$ (29,982)	\$ 707	\$ 6,023	\$ (6,730)	\$ (29,982)
Comprehensive net income (loss)	\$ (29,952)	\$ 664	\$ 6,040	\$ (6,257)	\$ (29,505)
Comprehensive income attributable to noncontrolling interest	—	—	(447)	—	(447)
Comprehensive net income (loss) attributable to ION	\$ (29,952)	\$ 664	\$ 5,593	\$ (6,257)	\$ (29,952)

Statement of Cash Flows	Six Months Ended June 30, 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	\$ 16,792	\$ (1,234)	\$ 793	\$ 16,351
Cash flows from investing activities:				
Cash invested in multi-client data library	—	(5,323)	(9,273)	(14,596)
Purchase of property, plant and equipment	(35)	(247)	(415)	(697)
Net cash used in investing activities	(35)	(5,570)	(9,688)	(15,293)
Cash flows from financing activities:				
Borrowings under revolving line of credit	27,000	—	—	27,000
Payments under revolving line of credit	(4,500)	—	—	(4,500)
Proceeds from government relief funding	6,923	—	—	6,923
Payments on notes payable and long-term debt	(972)	(555)	—	(1,527)
Intercompany lending	(6,289)	7,353	(1,064)	—
Other financing activities	5	—	—	5
Net cash provided by (used in) financing activities	22,167	6,798	(1,064)	27,901
Effect of change in foreign currency exchange rates on cash, cash equivalents and restricted cash	—	—	538	538
Net increase (decrease) in cash, cash equivalents and restricted cash	38,924	(6)	(9,421)	29,497
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	\$ 47,403	\$ 20	\$ 15,192	\$ 62,615

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

	June 30, 2020			
	ION Geophysical Corporation	The Guarantors	All Other Subsidiaries	Total Consolidated
	(In thousands)			
Cash and cash equivalents	\$ 47,328	\$ 20	\$ 15,192	\$ 62,540
Restricted cash included in prepaid expenses and other assets	75	—	—	75
Total cash, cash equivalents, and restricted cash shown in statements of cash flows	\$ 47,403	\$ 20	\$ 15,192	\$ 62,615

Statement of Cash Flows	Six Months Ended June 30, 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	\$ 10,447	\$ 4,668	\$ (850)	\$ 14,265
Cash flows from investing activities:				
Investment in multi-client data library	—	(10,215)	(4,567)	(14,782)
Purchase of property, plant and equipment	(146)	(395)	(871)	(1,412)
Net cash used in investing activities	(146)	(10,610)	(5,438)	(16,194)
Cash flows from financing activities:				
Payments on notes payable and long-term debt	(868)	(538)	—	(1,406)
Intercompany lending	(13,511)	6,495	7,016	—
Other financing activities	(551)	—	—	(551)
Net cash provided by (used in) financing activities	(14,930)	5,957	7,016	(1,957)
Effect of change in foreign currency exchange rates on cash, cash equivalents and restricted cash	—	—	(102)	(102)
Net increase (decrease) in cash, cash equivalents and restricted cash	(4,629)	15	626	(3,988)
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	\$ 9,456	\$ 62	\$ 20,348	\$ 29,866

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

	June 30, 2019			
	ION Geophysical Corporation	The Guarantors	All Other Subsidiaries	Total Consolidated
	(In thousands)			
Cash and cash equivalents	\$ 9,153	\$ 62	\$ 20,348	\$ 29,563
Restricted cash included in prepaid expenses and other current assets	303	—	—	303
Total cash, cash equivalents, and restricted cash shown in statement of cash flows	\$ 9,456	\$ 62	\$ 20,348	\$ 29,866

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

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.

Executive Summary

Overview

The COVID-19 pandemic caused the global economy to enter a recessionary period, which may be prolonged and severe, and significantly reduce 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. Brent crude oil prices rebounded to \$41 per barrel from increased global demand as pandemic restrictions started to ease and decreased production but remained significantly lower compared to the start of the year. The record production cut agreed to by OPEC and other oil producing countries in April was extended through July 2020.

While commodity prices can be volatile, the sharp decline earlier this year triggered E&P companies to reduce budgets and delay near-term spending, but is also a catalyst to drive necessary cost restructuring and digital transformation of the E&P ecosystem. Onshore North America has had steeper declines than the international market, and our geographic focus is global offshore. Even so, we have already seen a material slowdown in offshore seismic activity and expect that the second half of 2020 have its challenges.

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 Venture 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 strong. 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, our first half revenues are greater than or equal to revenues in the comparable prior five years. We worked closely with clients to understand revised budgets and to scale our business appropriately. To mitigate the impact of COVID-19 and oil price volatility, management implemented a plan to preserve cash and manage liquidity as follows:

- Scaled down personnel costs and operating expenses in April 2020 by another \$18.0 million during the remaining nine months of 2020, building on the over \$20.0 million of cuts made in January 2020. These further reductions are primarily through a variety of furlough programs and reduced compensation arrangements across our worldwide workforce. Our executives took a 20% base salary reduction and a tiered reduction scheme has been cascaded to the rest of the worldwide workforce. Our board of directors took a 20% reduction in directors' fees. In addition, we have curtailed use of external contractors, decreased travel and event costs and implemented new systems and processes that more efficiently support our business.
- Reduced capital expenditures to an estimated \$25.0 million to \$35.0 million (a portion of which will be pre-funded or underwritten by our customers), down from the original budget of \$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 approximately \$7.0 million was received during the period. Receipt of this assistance allowed us to avoid further staff reductions while supporting our ongoing operations.
- Re-negotiated existing lease agreements for our significant locations to obtain rent relief of approximately \$4.0 million. The majority of the cash savings from the rent relief is expected to benefit the Company from July 2020

to March 2021. See Note 12 “*Lease Obligations*” of *Footnotes to Condensed Consolidated Financial Statements*” for further details.

- Announced the sale of our interest in INOVA Geophysical for \$12.0 million that is expected to close during the fourth quarter of the year, subject to regulatory approvals and other closing conditions.
- Entered into a settlement agreement with WesternGeco ending the decade-long patent litigation. See Note 9 “*Litigation*” of *Footnotes to Condensed Consolidated Financial Statements*” for further details.
- We reviewed our debt covenants and expect that we will remain in compliance for the next twelve months.

We believe that the above management 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 the next twelve months.

Our three and six months results were consistent with the Company’s expectations of customer spend contraction related to COVID-19 demand destruction and oil oversupply weighing on the commodity price. There was a strong improvement in our cash balance from collection of accounts receivable related to our strong first quarter sales and realizing the additional cost reduction measures put in place entering the quarter as well as receiving government relief funding. Active priorities were further limited to improve focus and execution on strategic initiatives, and ultimately deliver better results to shareholders. Management believes we are better positioned to mitigate some of the immediate impacts of the market disruption given our improved cash position, lower cost basis and strategy execution progress.

Our Business

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 450 employees, 42% 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 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. We wrote our investment in INOVA down to zero in 2014. See further discussion below on our agreement to sell our interest in INOVA.

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

Our Operations Optimization segment develops mission-critical subscription offerings and provides engineering services that enable operational control and optimization offshore. This segment is comprised of our Optimization Software & Services and Devices offerings. 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. 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 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 740,000 km of 2D and over 355,000 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, the program becomes 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.

Our E&P Technology & Services segment revenues decreased compared to the second quarter of 2019 due to decline in multi-client data library sales. We invested \$14.6 million in our multi-client data library during the first half of 2020 and we expect investments in our multi-client data library to be in the range of \$25.0 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 June 30, 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 \$10.0 million compared to \$18.9 million at December 31, 2019 and \$30.2 million at June 30, 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 the last year, we grew our 3D multi-client data library 48% to over 355,000 sq. km. through cost effective, contiguous reimaging of existing data. 37% of our 2019 multi-client revenue was from 3D data, 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 Gemini 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 survey optimization.

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. 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 decreased compared to the second quarter of 2019 resulting from COVID-19 reduced seismic activity and vessel stacking. When E&P companies reviewed their 2020 exploration plans and budgets in light of lower commodity prices, many contracts were postponed or canceled, and tender activity dropped dramatically.

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 the market. We believe our newest technologies 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.

In March 2020, we announced an agreement to sell our 49% ownership interest in INOVA for \$12.0 million. The transaction is expected to close in the fourth quarter 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 data library 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.

See Note 9 "Litigation" of *Footnotes to Condensed Consolidated 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 and six months ended June 30, 2020, compared to the same period of 2019.

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
(in thousands, except share data)				
Net revenues:				
E&P Technology & Services:				
New Venture	\$ 4,686	\$ 5,018	\$ 6,127	\$ 18,489
Data Library	6,867	17,794	46,998	27,742
Total multi-client revenues	11,553	22,812	53,125	46,231
Imaging and Reservoir Services	3,673	5,711	8,615	9,395
Total	15,226	28,523	61,740	55,626
Operations Optimization:				
Optimization Software & Services	3,377	5,720	7,804	10,753
Devices	4,128	7,532	9,601	12,352
Total	7,505	13,252	17,405	23,105
Total net revenues	\$ 22,731	\$ 41,775	\$ 79,145	\$ 78,731

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Gross profit:				
E&P Technology & Services	\$ 2,264	\$ 12,357	\$ 25,994	\$ 17,797
Operations Optimization	2,320	7,226	6,934	11,698
Total gross profit	\$ 4,584	\$ 19,583	\$ 32,928	\$ 29,495
Gross margin:				
E&P Technology & Services	15 %	43 %	42 %	32 %
Operations Optimization	31 % ^(a)	55 %	40 % ^(a)	51 %
Total gross margin	20 %	47 %	42 %	37 %
Income (loss) from operations:				
E&P Technology & Services	\$ 442	\$ 5,237	\$ 18,394 ^(b)	\$ 3,622
Operations Optimization	(474)	2,644	(3,733) ^(c)	2,814
Support and other	(5,440) ^(d)	(10,434)	(13,807) ^(d)	(24,926)
Income (loss) from operations	\$ (5,472)	\$ (2,553)	\$ 854	\$ (18,490)
Operating margin:				
E&P Technology & Services	3 %	18 %	30 %	7 %
Operations Optimization	(6)%	20 %	(21)%	12 %
Support and other	(24)%	(25)%	(17)%	(32)%
Total operating margin	(24)%	(6)%	1 %	(23)%
Net loss attributable to ION	\$ (5,219)	\$ (8,622)	\$ (7,482)	\$ (29,982)
Net loss per share:				
Basic	\$ (0.37)	\$ (0.61)	\$ (0.53)	\$ (2.13)
Diluted	\$ (0.37)	\$ (0.61)	\$ (0.53)	\$ (2.13)
Weighted average number of common shares outstanding:				
Basic	14,241	14,098	14,236	14,065
Diluted	14,241	14,098	14,236	14,065

^(a) Operations Optimization segment gross margin is negatively impacted by the out of period adjustments to cost of sales of \$1.3 million for the three and six months ended June 30, 2020. Excluding this adjustment, gross margin would have been 48% and 47%, respectively, for the three and six months ended June 30, 2020. See Note 3 “Segment Information” of Footnotes to Condensed Consolidated Financial Statements” for further details.

^(b) Includes impairment of multi-client data library of \$1.2 million partly offset by a positive out of period adjustment of \$1.0 million for the six months ended June 30, 2020. See Note 3 “Segment Information” of Footnotes to Condensed Consolidated Financial Statements” for further details.

^(c) Includes impairment of goodwill of \$4.2 million for the six months ended June 30, 2020.

^(d) Includes amortization of the government relief funding expected to be forgiven of \$6.9 million for the six months ended June 30, 2020.

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 June 30, 2020 Compared to Three Months Ended June 30, 2019

Our consolidated net revenues of \$22.7 million for the three months ended June 30, 2020 (the “Current Quarter”) decreased by \$19.0 million, or 46%, compared to consolidated net revenues of \$41.8 million for the three months ended June 30, 2019 (the “Comparable Quarter”). Our total gross margin was 20% in the Current Quarter, as compared to 47% in the Comparable Quarter. For the Current Quarter, our loss from operations was \$5.5 million, compared to a loss of \$2.6 million for the Comparable Quarter.

Net loss for the Current Quarter was \$5.2 million, or \$0.37 loss per share, compared to \$8.6 million, or \$0.61 loss per share, for the Comparable Quarter.

Net Revenues, Gross Profits and Gross Margins

E&P Technology & Services — Net revenues for the Current Quarter decreased by \$13.3 million, or 47%, to \$15.2 million, compared to \$28.5 million for the Comparable Quarter. Within the E&P Technology & Services segment, total multi-client revenues were \$11.6 million, a decrease of 49% primarily due to reduced sales of our global data library. Imaging and Reservoir Services revenues were \$3.7 million, a \$2.0 million decrease compared to the Comparable Quarter due to lower proprietary tender activity. The Current Quarter reflects a gross profit of \$2.3 million, representing a 15% gross margin, compared to a gross profit of \$12.4 million, or 43% gross margin, in the Comparable Quarter. Changes in gross profit and margin were due to decrease in our revenues as discussed above.

Operations Optimization — Total net revenues for the Current Quarter decreased by \$5.7 million, or 43% to \$7.5 million, compared to \$13.3 million for the Comparable Quarter. Optimization Software & Services net revenues for the Current Quarter decreased by \$2.3 million, or 41% to \$3.4 million, compared to \$5.7 million for the Comparable Quarter due to reduced seismic activity and associated services demand resulting from COVID-19. Devices net revenues for the Current Quarter decreased by \$3.4 million, or 45%, to \$4.1 million, compared to \$7.5 million for the Comparable Quarter primarily due to lower sales of towed streamer equipment spares and repairs. The Current Quarter reflects a gross profit of \$2.3 million, representing a 31% gross margin compared to a gross profit of \$7.2 million, representing a 55% gross margin for the Comparable Quarter. Changes in gross profit and margin were due to the decline in our revenues as discussed above as well as the increase in our cost of sales from out of period adjustments to towed streamer repairs. Excluding this adjustment, Operations Optimization's gross margin would have been 48%.

Operating Expenses

Research, Development and Engineering — Research, development and engineering expense were \$3.0 million for the Current Quarter, a decrease of \$2.2 million, or 41% compared to \$5.2 million for the Comparable Quarter primarily due to the cost cutting initiative implemented following the COVID-19 related market impact.

Marketing and Sales — Marketing and sales expense were \$1.2 million for the Current Quarter, a decrease of \$4.8 million, or 80% compared to \$6.1 million for the Comparable Quarter primarily due to the reduction of commission expense resulting from the cost cutting initiative implemented earlier in the year as well as the positive impact of an out of period adjustment to marketing and sales expense during the Current Quarter.

General, Administrative and Other Operating Expenses — General, administrative and other operating expenses were \$5.8 million for the Current Quarter, a decrease of \$5.1 million, or 47% compared to \$10.9 million for the Comparable Quarter primarily due to the reduction in severance and compensation expense during the quarter resulting from our cost cutting initiatives.

Other Items

Interest Expense, Net — Interest expense, net, was \$3.4 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 \$3.1 million compared to \$2.7 million for the Comparable Quarter. The income tax expense for the Current Quarter and Comparable Quarter primarily relates to results generated by our non-U.S. businesses in Latin America. 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. Due to the impact of the valuation allowances on tax expense, our effective tax rates are not meaningful for all periods presented. See further discussion of establishment of the deferred tax valuation allowance at Note 8 "*Income Taxes*" of *Footnotes to Condensed Consolidated Financial Statements*.

Other income (expense), net — Other income for the Current Quarter was \$6.8 million compared to \$0.1 million for the Comparable Quarter, an increase of \$6.7 million primarily due to the amortization of government relief funding expected to be forgiven of \$6.9 million. See further discussion at Note 6 "*Government Relief Funding*" of *Footnotes to Condensed Consolidated Financial Statements*.

Six Months Ended June 30, 2020 Compared to Six Months Ended June 30, 2019

Our consolidated net revenues of \$79.1 million for the six months ended June 30, 2020 (the "Current Period") increased by \$0.4 million, or 1%, compared to total net revenues of \$78.7 million for the six months ended June 30, 2019 (the "Comparable Period"). Our total gross margin for the Current Period was 42%, compared to 37%, for the Comparable Period. For the Current Period, our income from operations was \$0.9 million, compared to a loss of \$18.5 million, for the Comparable Period.

Net loss for the Current Period was \$7.5 million, or \$0.53 loss per share, compared to \$30.0 million, or \$2.13 loss per share, in the Comparable Period.

Net Revenues, Gross Profits and Gross Margins

E&P Technology & Services — Net revenues for the Current Period increased by \$6.1 million, or 11%, to \$61.7 million, compared to \$55.6 million for the Comparable Period driven by increased sales of global 2D data library during the first quarter, partly offset by a reduction in new venture revenues. Gross profit increased by \$8.2 million to \$26.0 million, or 42% gross margin, compared to \$17.8 million, or 32% gross margin, in the Comparable Period. These improvements in gross profit and margin were due to the higher volume and mix of data library programs not subject to royalty expenses.

Operations Optimization — Total net revenues for the Current Period decreased by \$5.7 million or 25%, to \$17.4 million compared to \$23.1 million for the Comparable Period. Optimization Software & Services net revenues for the Current Period decreased by \$2.9 million, or 27%, to \$7.8 million compared to \$10.8 million for the Comparable Period. Devices net revenues for the Current Period decreased by \$2.8 million, or 23%, to \$9.6 million, compared to \$12.4 million. The change in revenues during the Current Period is consistent with the changes described for the Current Quarter discussed above. Gross profit decreased by \$4.8 million to \$6.9 million, representing a 40% gross margin, for the Current Period compared to \$11.7 million, representing a 51% gross margin, for the Comparable Period due to the decline in our revenues as well as the increase in our cost of sales from out of period adjustments to towed streamer repairs. Excluding this adjustment, Operations Optimization's gross margin would have been 47%.

Operating Expenses

Research, Development and Engineering — Research, development and engineering expense was \$7.0 million for the Current Period, a decrease of \$3.5 million, or 33%, compared to \$10.5 million for the Comparable Period due to primarily due to the cost cutting initiative implemented in January 2020 and following the COVID-19 related market impact.

Marketing and Sales — Marketing and sales expense was \$6.1 million for the Current Period, a decrease of \$5.8 million, or 49%, compared to \$11.9 million, for the Comparable Period, primarily due to the reduction of commission expense resulting from the cost cutting initiative implemented earlier in the year as well as the positive impact of an out of period adjustment to marketing and sales expense during the Current Period.

General, Administrative and Other Operating Expenses — General, administrative and other operating expenses were \$14.8 million for the Current Period, a decrease of \$10.8 million, or 42%, compared to \$25.6 million for the Comparable Period. This decrease was primarily due to the reduction in severance and compensation expense resulting from our cost cutting initiatives.

Impairment of Goodwill — Impairment of goodwill was \$4.2 million for the Current Period compared to zero for the Comparable Period resulting from impairment charge recognized during the first quarter of 2020. See further discussion at Note 10 "Details of Selected Balance Sheet Accounts" of *Footnotes to Condensed Consolidated Financial Statements*.

Other Items

Interest Expense, net — Interest expense, net, was \$6.6 million for the Current Period compared to \$6.2 million for the Comparable Period. For additional information, please refer to "Liquidity and Capital Resources — Sources of Capital" below.

Income Tax Expense — Income tax expense for the Current Period was \$8.9 million compared to \$4.1 million for the Comparable Period. Our income tax expense for the Current Period and Comparable Period, were primarily related to results from our non-US businesses in Latin America. The income tax expense for the Current Period includes \$2.2 million of valuation allowance related to our non-U.S. businesses. Our effective tax rate for the Current Period and Comparable Period was negatively impacted by the change in valuation allowance related to U.S. operating losses for which we cannot currently recognize a tax benefit. Due to the impact of the valuation allowances on tax expense, our effective tax rates are not meaningful for all periods presented. See further discussion of establishment of the deferred tax valuation allowance at Note 8 "Income Taxes" of *Notes to Condensed Consolidated Financial Statements*.

Other income (expense), net - Other income for the Current Period was \$7.2 million compared to other expense of \$0.7 million for the Comparable Period, an increase of \$7.9 million primarily due to the amortization of government relief funding expected to be forgiven of \$6.9 million. See further discussion at Note 6 "Government Relief Funding" of *Footnotes to Condensed Consolidated Financial Statements*.

Liquidity and Capital Resources

Sources of Capital

At June 30, 2020, we had total liquidity of \$71.3 million, consisting of \$62.5 million of cash on hand and \$8.8 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, we drew under our Credit Facility during the first quarter 2020, of which \$22.5 million remains outstanding and in our cash balances as of June 30, 2020. 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 June 30, 2020, we had negative working capital of \$17.9 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 (\$14.6 million in the Current Period and \$25.0 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 450 employees as of June 30, 2020 from 520 employees as of December 31, 2019 resulting from our cost reduction initiative earlier this year, a significant portion of which is reduction in our personnel costs. 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 maximum amount available 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. At June 30, 2020, there was \$22.5 million outstanding indebtedness under the Credit Facility and the undrawn remaining borrowing base capacity was \$8.8 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 June 30, 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 June 30, 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 June 30, 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%

Government Relief Funding

On April 11, 2020, we entered into a Note Agreement (“Note”) with PNC amounting to \$6.9 million pursuant to the Coronavirus Aid, Relief, and Economic Security Act’s (“CARES Act”) Paycheck Protection Program (“PPP”). Amounts outstanding under this Note will bear interest at 1% per annum beginning on the six-month anniversary of the date of the Note. Interest will be calculated based on the actual number of days that principal is outstanding over a year of 360 days. The Note matures in two years after the receipt of the loan proceeds.

We will apply to PNC for forgiveness of the amount due on this Note in an amount based on the sum of the following costs incurred by our US operations during the 24-week period beginning on the date of first disbursement (For payroll costs, beginning on the date of the first pay period following disbursement. For non-payroll costs, beginning on the date of first disbursement.) of this Note: (a) payroll costs; (b) any payment on a covered rent obligation; and (c) any covered utility payment. The amount of forgiveness shall be calculated (and may be reduced) in accordance with the requirements of the PPP, including the provisions of Section 1106 of the CARES Act. The forgiveness amount will be subject to the Small Business Administration’s review. Any outstanding principal amount under this Note that is not forgiven under the PPP shall convert to an amortizing term loan.

We recognized the Note following the government grant accounting by analogy to International Accounting Standards (“IAS”) 20, “*Accounting for Government Grants and Disclosure of Government Assistance*.” During the period ending June 30, we recognized the amounts estimated to be forgiven as a deferred income liability and is amortized to other income on a systematic and rational basis. Any outstanding principal amount not expected to be forgiven is recognized as other debt. We expect that the full amount of the Note will be forgiven and recognized amortization of the entire deferred income liability of \$6.9 million to other income in the condensed consolidated income statements for the three and six months ended June 30, 2020 as the related expense it intends to offset were incurred from April 2020 to June 2020. If, despite our good-faith belief that given our circumstances we satisfied all eligible requirements for the PPP Loan, we are later determined to have not been in compliance with these requirements or it is otherwise determined that we were ineligible to receive the PPP Loan, we may be required to repay the PPP Loan in its entirety and/or be subject to additional penalties. Should we be audited or reviewed by federal or state regulatory authorities as a result of filing an application for forgiveness of the PPP Loan or otherwise, such audit or review could result in the diversion of management’s time and attention and the incurrence of additional costs.

Meeting our Liquidity Requirements

At June 30, 2020, our total outstanding indebtedness (including equipment finance leases) was approximately \$142.9 million, consisting primarily of approximately \$120.6 million outstanding Second Lien Notes, \$1.3 million of equipment finance leases and other short-term debt, partially offset by \$1.5 million of debt issuance costs. In response to the market uncertainty resulting from COVID-19 pandemic combined with weaker oil and gas prices, we drew under our Credit Facility during the first quarter 2020, of which \$22.5 million remains outstanding and in our cash balances as of June 30, 2020.

For the Current Period, total capital expenditures, including the investments in our multi-client data library, were \$15.3 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 \$25.0 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, our first half revenues are greater than or equal to revenues in the comparable prior five years. There was a strong improvement in our cash balance from collection of accounts receivable related to our strong first quarter sales and realizing the additional cost reduction measures put in place entering the quarter as well as receiving government relief funding. We worked closely with clients to understand revised budgets and to scale our business appropriately. To mitigate the impact of COVID-19 and oil price volatility, management implemented a plan to preserve cash and manage liquidity as follows:

- Scaled down personnel costs and operating expenses in April 2020 by another \$18.0 million during the remaining nine months of 2020, building on the over \$20.0 million of cuts made in January 2020. These further reductions are primarily through a variety of furlough programs and reduced compensation arrangements across our worldwide workforce. Our executives took a 20% base salary reduction and a tiered reduction scheme has been cascaded to the rest of the worldwide workforce. Our board of directors took a 20% reduction in directors' fees. In addition, we have curtailed use of external contractors, decreased travel and event costs and implemented new systems and processes that more efficiently support our business.
- Reduced capital expenditures to an estimated \$25.0 million to \$35.0 million (a portion of which will be pre-funded or underwritten by our customers), down from the original budget of \$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 approximately \$7.0 million was received during the period. Receipt of this assistance allowed us to avoid further staff reductions while supporting our ongoing operations.
- Re-negotiated existing lease agreements for our significant locations to obtain rent relief of approximately \$4.0 million. The majority of the cash savings from the rent relief is expected to benefit us from July 2020 to March 2021. See Note 12 "*Lease Obligations*" for further details.
- Announced the sale of our interest in INOVA Geophysical for \$12.0 million that is expected to close during the fourth quarter of the year, subject to regulatory approvals and other closing conditions.
- Entered into a settlement agreement with WesternGeco ending the decade-long patent litigation. See Note 9 "*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 the next twelve months.

Cash Flow from Operations

In the Current Period, we generated cash from operating activities of \$16.4 million compared to cash generated from operating activities of \$14.3 million for the Comparable Period. This was driven primarily by collection of our accounts receivables during the current quarter.

Cash Flow from Investing Activities

Cash used in investing activities was \$15.3 million in the Current Period compared to \$16.2 million for the Comparable Period. The principal uses of cash in our investing activities during the Current Period were \$14.6 million invested in our multi-client data library and \$0.7 million for capital expenditures related to property, plant and equipment.

The principal use of cash in our investing activities during the Comparable Period were \$14.8 million invested in our multi-client data library and \$1.4 million for capital expenditures related to property, plant and equipment.

Cash Flow from Financing Activities

Net cash provided by financing activities was \$27.9 million in the Current Period, compared to net cash used in financing activities of \$2.0 million for the Comparable Period. Cash provided by financing activities was related to \$27.0 million of drawdown on our credit facility partly offset by \$4.5 million of payments to our credit facility, receipt of the government relief funding of \$6.9 million and \$1.5 million of payments of long-term debt, including equipment finance leases in the Current Period.

The net cash used in financing activities during the Comparable Period was related to \$1.4 million of payments of long-term debt, including equipment finance leases in the Comparable Period.

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 53% and 74%, respectively, of total net revenues.

	Six Months Ended June 30,	
	2020	2019
Net revenues by geographic area:	(In thousands)	
North America	\$ 37,441	\$ 20,802
Latin America	14,770	27,852
Asia Pacific	11,919	5,543
Europe	9,986	16,515
Middle East	1,896	2,465
Africa	1,595	4,667
Other	1,538	887
Total	<u>\$ 79,145</u>	<u>\$ 78,731</u>

Credit Risks

For the six months ended June 30, 2020, we had one customer with sales that exceeded 10% of the Company's consolidated net revenues. For six months ended June 30, 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 June 30, 2020, we had two customer with balances that accounted for 33% of our total combined accounts receivable and unbilled receivable balances. At June 30, 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

For the three and six months ended June 30, 2020, we recorded net foreign currency translation adjustment of approximately \$0.7 million and \$2.5 million, respectively, primarily due to currency fluctuations related to our operations in Brazil.

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 Period.

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 June 30, 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 June 30, 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 June 30, 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 data library 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 reimaging programs offshore Mexico.

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 (the award of lost profit damages was vacated because the Patent Trial and Appeal Board of the Patent and Trademark Office invalidated four of the five patent claims that could have supported an award of lost profit), 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 9 "*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 early 2020. We prepared a petition to file with the court to request that a 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 September 9, 2020. We have not escrowed the money as of June 30, 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:

- the impact of the COVID-19 pandemic on our business, financial condition, and results of operations;
- future levels of our capital expenditures and of our customers for seismic activities;
- future oil and gas commodity prices;
- the effects of current and future worldwide economic conditions (particularly in developing countries) and demand for oil and natural gas and seismic equipment and services;
- future implication of our negative working capital and 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, Jobs Act and CARES Act;
- anticipated results with respect to certain estimates we make for financial accounting purposes;
- future success dependent on our continuing ability to identify, hire, develop, motivate and retain skilled personnel for all areas of our organization;
- breaches to our systems could lead to loss of intellectual property, dissemination of highly confidential information, increased costs and impairment of our ability to conduct our operations; 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 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.

During the first half of 2020, crude oil prices fell dramatically, due 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 production cuts in April 2020 that were extended through July 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, or if demand for our products and services do not rebound commensurately with oil prices, 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 or if we are unable to re-negotiate 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.

We may not be entitled to forgiveness of our Paycheck Protection Program (PPP) Loan, and our application for it could be determined by the government to have been impermissible.

On April 15, 2020, we received loan proceeds of approximately \$6.9 million (the "PPP Loan") pursuant to the Paycheck Protection Program under the Coronavirus Aid, Relief, and Economic Security Act (the "CARES Act") administered by the U.S. Small Business Administration (the "SBA"). We have used the PPP Loan proceeds in accordance with the provisions of the CARES Act. The PPP Loan bears interest at a rate of 1.00% per annum, and is subject to the standard terms and conditions applicable to loans administered by the SBA under the CARES Act.

Under the CARES Act, as amended in June 2020, loan forgiveness is generally available for the sum of documented payroll costs, covered rent payments, covered mortgage interest and covered utilities during the Covered Period, which is 8 weeks or 24 weeks (at the election of the Company) beginning on the date of the first disbursement of the PPP Loan. The amount of the PPP Loan eligible to be forgiven may be reduced in certain circumstances, including as a result of certain headcount or salary reductions. We will be required to repay any portion of the outstanding principal that is not forgiven, along with accrued interest.

In order to apply for the PPP Loan, we were required to certify, among other things, that the current economic uncertainty made the PPP Loan request necessary to support our ongoing operations. We made this certification in good faith after analyzing, among other things, the maintenance of our workforce, our need for additional funding to continue operations, and our ability to access alternative forms of capital in the current market environment to offset the effects of the COVID -19

pandemic. Following this analysis, we believe that we satisfied all eligibility criteria for the PPP Loan, and that our receipt of the PPP Loan is consistent with the broad objectives of the CARES Act.

On April 23, 2020, the SBA issued guidance stating that it is unlikely that a public company with substantial market value and access to capital markets will be able to make the required certification in good faith. The lack of clarity regarding loan eligibility under the Paycheck Protection Program has resulted in significant media coverage and controversy with respect to public companies applying for and receiving loans. If, despite our good-faith belief that given our circumstances we satisfied all eligible requirements for the PPP Loan, we are later determined to have not been in compliance with these requirements or it is otherwise determined that we were ineligible to receive the PPP Loan, we may be required to repay the PPP Loan in its entirety and/or be subject to additional penalties. Should we be audited or reviewed by federal or state regulatory authorities as a result of filing an application for forgiveness of the PPP Loan or otherwise, such audit or review could result in the diversion of management's time and attention and the incurrence of additional costs. Any of these events could have a material adverse effect on our business, results of operations and financial condition.

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 June 30, 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
April 1, 2020 to April 30, 2020	—	\$ —	Not applicable	Not applicable
May 1, 2020 to May 31, 2020	—	\$ —	Not applicable	Not applicable
June 1, 2020 to June 30, 2020	297	\$ 2.36	Not applicable	Not applicable
Total	297	\$ 2.36		

Item 5. Other Information

None.

Item 6. Exhibits

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 June 30, 2020 and December 31, 2019, (ii) Condensed Consolidated Statements of Operations for the three- and six-months ended June 30, 2020 and 2019, (iii) Condensed Consolidated Statements of Comprehensive Loss for the three- and six-months ended June 30, 2020 and 2019, (iv) Condensed Consolidated Statements of Cash Flows for the six months ended June 30, 2020 and 2019, (v) Condensed Consolidated Statements of Stockholders' Deficit for the three- and six-months ended June 30, 2020 and 2019 and (vi) Footnotes to Condensed Consolidated Financial Statements.

104 Cover page interactive Data File

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

ION GEOPHYSICAL CORPORATION
(Registrant)

By /s/ Mike Morrison

Mike Morrison
Executive Vice President and Chief Financial Officer

Date: August 6, 2020

**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 June 30, 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: August 6, 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 June 30, 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: August 6, 2020

/s/ Mike Morrison

Mike Morrison
Executive Vice President and 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 June 30, 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: August 6, 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 June 30, 2020, as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Mike Morrison, Executive Vice President and 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: August 6, 2020

/s/ Mike Morrison

Mike Morrison
Executive Vice President and Chief Financial Officer